TANKS SOLICITATION

Professional Services Questionnaire

Solicitation # SCC060008

Arizona Department of Environmental Quality

Contracts and Procurement Unit

Definitions:

1. "*Branch Office*" means a satellite, or subsidiary extension, of a headquarters office of a company, regardless of any differences in name or legal structure of such a branch due to local or state laws. Branch offices are normally subject to the management decisions, bookkeeping, and policies of the main office.

2. "*Consultant*" means a highly specialized individual or firm having significant input and responsibility for certain aspects of a project and possessing unusual or unique capabilities for assuring success of the finished work.

3. "*Discipline*," means the primary technological capability of individuals in the responding firm. Possession of an academic degree, professional registration, certification or extensive experience in a particular field of practice normally reflects an individual's primary technical discipline.

4. "*Key Persons, Specialists, and Individual Consultants*," means those individuals who will have major project responsibility or will provide unusual or unique capabilities for the project under consideration.

5. "*Parent Company*" means firm, company, corporation, association or conglomerate which is the major stockholder or highest tier owner of the firm completing this questionnaire; i.e., Firm A is owned by Firm B which is, in turn, a subsidiary of Corporation C. The "parent company" of Firm A is Corporation C.

6. "*Prime*" means that firm which may be coordinating the concerted and complementary inputs of several firms, individuals or related services to produce a completed study or facility. The "prime would normally be regarded as having full responsibility and liability for quality of performance by itself as well as by subcontractor professionals under its jurisdiction.

7. "*Principals*" means those individuals in a firm who possess legal responsibility for its management. They may be owners, partners, corporate officers, associates, administrators, etc.

8. "*Subcontract*" means any Contract, express or implied, between the Contractor and another party or between a subcontractor and another party delegating or assigning, in whole or in part, the making or furnishing of any material or any service required for the performance of the Contract.

9. "*Subcontractor*" means one who is awarded a portion of an existing Contract by a Contractor, esp. a general contractor. For example, a Contractor who performs environmental work typically retains Subcontractors to perform specialty work such as drilling, well installations, lab analysis, etc.

Instructions for Filing (Numbers below correspond to numbers contained in form):

1. Show date on which form is prepared. All information submitted shall be current and accurate as of this date.

2. Type accurate and complete name of submitting firm, its address, zip code and primary phone number.

   2.1 Indicate whether form is being submitted in behalf of a parent firm or a branch office.

3. Provide date the firm was established under the name shown in question 2.

4. Enter type of ownership, or legal structure, of firm (sole proprietor, partnership, corporation, etc.)

   Check appropriate boxes indicating if firm is (a) a small business concern; (b) a small business concern owned and operated by socially and economically disadvantaged individuals; or (c) Woman-owned

   Note: *ARS §41-1001(19): "Small business" means a concern, including its affiliates, which is independently owned and operated, which is not dominant in its field and which employs fewer than one hundred full-time employees or which had gross annual receipts of less than four million dollars in its last fiscal year. For purposes of a specific rule, an agency may define small business to include more persons if it finds that such a definition is necessary to adapt the rule to the needs and problems of small businesses and organizations.*

5. Branches of subsidiaries of large or parent companies, or conglomerates, should insert name and address of highest-tier owner.

   5.1 If present firm is the successor to, or outgrowth of, one or more predecessor firms, show name(s) of entity.

   5.2 Year parent Company was established.

6. List not more than two principals from submitting firm who may be contacted by ADEQ. (Different principles may be listed on forms going to another agency.) Listed principals must be empowered to speak for the firm on the policy and contractual matters.

7. Show total number of employees, by discipline, in submitting office. (*If form is being submitted by main headquarters office, firm should list total employees, by discipline, in all offices.) While some personnel may be qualified in several disciplines, each person should be counted only once in accord with his or her primary function. Include clerical personnel as "administrative." Write in any additional disciplines—geologist, archeologist, biologists, etc.—and number of people in each, in blank spaces provided.

8. Using chart (on the form) insert appropriate index number to indicate range of professional services fees received by submitting firm each calendar year for the last five years, most recent year first. Fee summaries should be broken down to reflect the fees received each year for (a) work performed directly for the State (not including grant and loan projects) or as a sub to other professionals performing work directly for the State; (b) all other domestic work, U.S. and possessions, including Federally-assisted projects, and (c) all other foreign work.

9. Select and enter, in numerical sequence, not more than six "Experience Profile Code" numbers from the listing below, which most accurately reflect submitting firm's demonstrated technical capabilities and project experience. Carefully review the list. (It is recognized some profile codes may be part of other services or projects contained on the list; firms are encouraged to select profile codes, which best indicate type and scope of services provided on past projects.) For each code number, show total number of projects and gross fees (in thousands) received for profile projects performed by firm during past five years. If firm has one or more capabilities not included on the list, insert name in blank spaces at end of list and show numbers in question 9 on the form. In such cases, the filled-in listing must accompany the complete Professional Services Questionnaire when submitted to the State.

10. Using the "Experience Profile Code" numbers in the same sequence as entered in item 9, give details of at least one recent (within the last five years) representative project for each code number, up to a maximum of five separate projects, or portions of projects, for which firm was responsible. (Project examples may be used more than once to illustrate different services rendered on the same job. Example: a dining hall may be part of an auditorium or educational facility.) Firms, which select less than five "profile codes" may list two or more project examples (to illustrate specialization) for each code number so long as total of all project examples does not exceed five. After each code number in question 10, show: (a) whether firm was "P," the prime professional, or "C," a consultant, or "SC," a Subcontractor on that particular project (new firms, in existence less than five years may use the symbol "IE" to indicate "Individual Experience" as opposed to firm experience); (b) provide name and location of the specific project which typifies firm's (or individual's) performance under that code category; (c) give name and phone

number of the owner of that project (if government agency indicate responsible office); (d) show the estimated construction cost (or other applicable cost) for that portion of the project for which the firm was primarily responsible. (Where no construction was involved, show approximate cost of firm's work); and (e) state year work on that particular project was, or will be, completed.

11. Insert the number of personnel by discipline proposed for subject contract on line (A) who will be directly involved at the Task Assignment level. While some personnel may be qualified in several disciplines, each person should be counted only once in accord with his or her primary function. Include clerical personnel as "administrative." Write in any additional disciplines—geologists, archeologists, biologists, etc. – and number of people in each, in blank spaces provided.

12. List only those projects, which the firm is currently performing under direct contract with an agency or department of the State. Exclude any grant or loan projects being financed by the Federal Government but being performed under contract to other non-Federal Government entities. We prefer that you list recent such projects. Prime consideration will be given to projects, which illustrate respondent's capability for performing work similar to that being sought. Required information must include: (a) name and location of project, (b) brief description of type and extent of services provided for each project (offeror should indicate which individual was the prime on that particular project and what role they played), (c) name of the Government agency (indicate responsible office) and name and phone number of individual to contact for reference (preferably the project manager), (d) percent complete (Indicate in this item the percentage of work completed upon filing this form), (e) total construction cost of completed project (or where no construction was involved, the approximate cost of the work) and that portion of the cost of the project for which the named firm was/is responsible.

13. List up to five projects, which demonstrate the firms competence to perform work similar to that likely to be required under this contract. We prefer that you list recent such projects. Prime consideration will be given to projects, which illustrate respondent's capability for performing work similar to that being sought. Required information must include: (a) name and location of project, (b) brief description of type and extent of services provided for each project (offeror should indicate which individual was the prime on that particular project and what role they played), (c) name of the owner of that project, and name and phone number of individual to contact for reference (preferably the project manager), (d) completion date (actual when available, otherwise estimated), (e) total construction cost of completed project (or where no construction was involved, the approximate cost of the work) and that portion of the cost of the project for which the named firm was/is responsible.

14. Respondent should provide brief resumes for key persons (only Offerors employees) expected to participate on this contract. Care should be taken to limit resumes to only those personnel and specialists who will have major project responsibilities (Professional Level III and above only). Each resume must include: (a) name of each key person and specialist and his or her title, (b) the project assignment or role which that person will be expected to fulfill in connection with this contract, (c) years of relevant experience with present firms and other firms, (d) the highest academic degree achieved and the discipline covered (if more than one highest degree, such as two Ph.D.'s, list both), the year received and the particular technical/professional discipline which that individual will bring to the contract, (e) if registered as an architect, engineer, surveyor, etc. show only the field of registration and the year that such registration was first acquired. If registered in several states, list states, and (f) a synopsis of experience, training, or other qualities, which reflect individual's potential contribution to this contract. Include such data as: familiarity with Government or agency procedures in relation to UST corrective actions, similar type of work performed in the past, management abilities, familiarity with the Arizona geographic area, etc. Please limit synopsis of experience to directly relevant information.

15. Respondent should provide an organizational chart showing the staffing and lines of authority for the key persons to be used under this contract. The relationship of key personnel to management and to support personnel should be clearly illustrated.

16. Pricing shall be provided on an all inclusive basis and shall contain the labor rate, labor benefits, payroll burden, insurance, Workman's Compensation, fees, all taxes, profit, overhead, administrative costs (including backup documentation, subcontractor administration and all other related administrative factors) and all other related cost factors.

    The Hourly rates will be evaluated on the aggregate total of the hourly rates submitted. The hourly rates shall show a progression in price from level to level within the three groups e.g., Support Services, Field Services and Professional Personnel. An hourly rate must be submitted for each staff level identified in the Hourly Rate Pricing Schedule. If an hourly rate is not provided for a staff level the proposal shall be considered non-responsive.

    Note: All Hourly Rates Shall be Rounded to the nearest dollar ($38.49 = $38.00 or $38.50 = 39.00).

17. Equipment rental pricing shall be provided on an all inclusive basis and shall contain all fees (except air permits), administrative costs (including backup documentation) and all other related cost factors.

18. Through narrative discussion, show reason why the firm believes it is especially qualified to undertake the project. Information provided should include, but not be limited to, such data as: specialized equipment available for this work, any awards or recognition received by a firm or individuals for similar work, required security clearances, special approaches or concepts developed by the firm relevant to this project, etc. Respondents may say anything they wish in support of their qualifications. When appropriate, respondents may supplement this proposal with graphic material and photographs, which best demonstrate design capabilities of the team proposed for this project.

19. All information contained in the form should be current and factual.

Experience Profile Code Numbers (for use with questions 9 and 10)

001	Abatement	023	Groundwater Sampling and Monitoring	045	Soil Vapor Extraction
002	Aerial Photograph Review	024	Hydrogeological Assessment	046	Surface Water Quality Standards
003	Air Quality Monitoring	025	Interviews	047	System Installation and Start up
004	Air Sparging	026	Investigative Derived Waste Disposal	048	System Operation and Maintenance
005	Archaeological Studies	027	Laboratory Analysis	049	Tier II Evaluation
006	Bioremediation	028	Monitored Natural Attenuation	050	Treatment System - Groundwater
007	Bore Hole Sampling and Logging	029	Monitoring Well Installation - Groundwater	051	Treatment System - Soil
008	Chain of Title Search	030	Monitoring Well Installation – Vadose Zone	052	Treatment System – Surface Water
009	Chemical Oxidation	031	Multi Phase Extraction	053	UST System Closure / Tank Pull
010	Corrective Action Plan Preparation	032	Permitting	054	Well Development
011	Cultural Resource Survey	033	Pilot Testing	200	
012	Data Evaluation	034	Pump-and-Treat Remediation	201	
013	Data / Document Management	035	Records / Document Review	202	
014	Dual-Phase Extraction	036	Remedial System Design	203	
015	Environmental Sample Collection	037	Report Preparation	204	
016	Fate and Transport Modeling	038	Research of Legal Description	205	
017	Feasibility Study	039	Risk Assessment – Health/Ecological/Toxicological	206	
018	Free Product Recovery / Removal	040	Site Investigation – Phase I	207	
019	Geologic Mapping	041	Site Investigation – Soil / Groundwater	208	
020	Geophysical Surveys	042	Site Reconnaissance	209	
021	GIS Mapping / Database	043	Soil Boring	210	
022	Groundwater Modeling	044	Soil Testing	211	

1. Date Prepared: January 4, 2006

2. Firm Name	Business Address and Primary Phone Number
SCS Engineers	4222 East Thomas Road Suite 310 Phoenix, Arizona 85018

2.1 Submittal is for

[X] Parent Company [ ] Branch or Subsidiary Office

3. Year Present Firm was Established	4. Specify type of ownership and check below, if applicable. Corporation		
	a. Small Business	b. Small Disadvantaged Business	c. Women – Owned Business
1970			

5. Name of Parent Company, if any:	5.1 Former Parent Company Name(s), if any:	5.2 Year Parent Company was Established:

6. Names of not more than two Principals to contact:

	Name	Title	Telephone Number	Fax Number
1.	Bradley F. Johnston, R.G.	Vice President, Office Director	(602) 840-2596	(602) 224-0572
[redacted]		E-Mail Address:	bjohnston@scsengineers.com	
2.				
[redacted]		E-Mail Address:		

7. Personnel by Discipline: (List each person only once, by primary function) ** performed by other listed professionals

79	Administrative	1	Electrical Engineers		Oceanographers	18	CAD/CADD Experts
	Architects	3	Estimators	6	Planners: Urban/Regional	12	Construction Managers
12	Chemical Engineers	43	Geologists	3	Sanitary Engineers	6	Data Processing Experts
43	Civil Engineers	**	Hydrologists	4	Soils Engineers	88	Engineering/O&M Technicians
6	Construction Inspectors		Interior Designers	**	Specifications Writers	35	Environmental Engineers
24	Draftsmen		Landscape Architects	1	Structural Engineers	34	Hazardous Waste Specialists
7	Ecologists	11	Mechanical Engineers		Surveyors	2	Certified Industrial Hygienists
	Economists		Mining Engineers		Transportation Engineers	**439**	**Total Personnel**

8. Summary of Professional Services Fees Received: (Insert Index Number)

Last five years (most recent year first)

	2004	2003	2002	2001	2000
Direct State contract work	2	2	3	2	2
All other domestic work	8	8	8	8	8
All other foreign work	5	5	5	5	5

Ranges of Professional Services Fees "Index"

1. Less than $100,000
2. $100,000 to $250,000
3. $250,000 to $500,000
4. $500,000 to $1 Million
5. $1 Million to $2 Million
6. $2 Million to $5 Million
7. $5 Million to $10 Million
8. $10 Million or greater

9. Profile of Firm's Relevant Project Experience

	Profile Code	Number of Projects	Total Gross Fees		Profile Code	Number of Projects	Total Gross Fees
1.	006	22	2,300,000	4.	039	34	2,000,000
2.	015	750	22,500,000	5.	045	46	3,500,000
3.	023	580	9,600,000	6.	050	36	4,900,000

10. Project Examples, Last Five Years

	Profile Code	"P," "C," "SC," or "IE"	Project Name and Location	Owner Name	Owner Phone Number	Cost of Work	Completion Date (Actual or Estimated)
1.	006	P	Round Hill Fuel/MTBE Remedial Investigation, VA	VA Dept of Environmental Quality, Mark Miller	703-583-3808	$1,000,000	3/2007
2.	015	P	Various LUST Characterizations, AZ	Rinker Materials, Bill Peck	602-220-5166	$170,000	3/2006
3.	023	P	6th Street Service Center LUST Investigation, AZ	City of Mesa, Lee Mendelzon	480-644-3445	$850,000	12/2003
4.	045	P	48th St ADOT LUST Remediation, AZ	Arizona Department of Administration, Paul Carras	602-542-2862	$72,000	7/2002
5.	050	P	Price Service Center LUST Remediation, AZ	City of Tucson, Fran LaSala	520-791-5414	$341,000	8/2002

11. Personnel by discipline: (List each person only once, by primary function.) Enter proposed personnel at the Task Assignment Level on line "A".

A		A		A		A	
2	Administrative		Ecologists		Sanitary Engineers		
	Archeologists		Electrical Engineers	2	Soils Engineers		
	Biologists	5	Environmental Engineers	1	Specifications Writers		
1	Chemical Engineers	8	Geologists		Structural Engineers		
	Chemists	2	Hydrologists		Surveyors		
5	Civil Engineers		Landscape Architects		Toxicologists		
1	Construction Inspectors		Mechanical Engineers		Transportation Engineers		
1	Draftsmen	2	Risk Assessor	2	O&M Specialists	**32**	Total Personnel

12. All work by firm currently being performed directly for State Agencies. (list not more than 5 projects)

	a. Project Name and Location	b. Nature of Firm's Responsibility	c. Agency (Responsible Office) Project Managers Name & Phone Number	d. Completion Date (Actual or Estimated)	e. Estimated Cost (In Thousands)	
					Entire Project	Work for Which Firm was/is Responsible
1.	LUST Site Characterization, U of A Maricopa facility	Characterize extent of soil contamination associated with previously unidentified dispenser release.	ADOA Risk Mgmt Paul Carras 602-542-2862	Mar 2006	50	50
2.	LUST Site Groundwater Characterization and Free Product Recovery, Sunflower, AZ	Prime contractor for well installation, geologic mapping, soil and groundwater sampling, free product recovery.	ADOA Risk Mgmt Paul Carras 602-542-2862	Jun 2006	180	180
3.	Underground Storage Tank Closures, Phoenix, AZ	UST removal oversight, closure sampling and reporting.	Arizona Department of Transportation Ed Green 602-712-7768	Feb 2006	8	8
4.	Investigation and Remediation, Hamilton-Thomasson Airstrip, Picacho, AZ	Soil sampling, RAP for ADEQ VRP, remediation specs, risk assessment, remediation oversight, GPS mapping.	ADOA Risk Mgmt Doug Brown 602-542-2862	Jun 2006	1,500	450
5.						

13. Work by firm, which best illustrates current qualifications relevant to this contract. (list not more then 5 projects)

	a. Project Name and Location	b. Nature of Firm's Responsibility	c. Project Owner's Name and Project Managers Name & Phone Number	d. Percent Complete	e. Estimated Cost (In Thousands)	
					Entire Project	Work for Which Firm was/is Responsible
1.	UST Release Remedial Design, Price Service Center, Tucson, AZ	Soil vapor extraction pilot test, design, permitting, and construction oversight of dual-phase extraction system and free product skimming system, NPDES permitting for treated water discharge	City of Tucson Fran LaSala 520-791-5414	100	1,500	341
2.	Morgan Hill Corporate Yard Fuel/MTBE Release Characterization and Remediation, Morgan Hill, CA	Installation of multi-zone monitoring wells, pilot and treatability study, aquifer testing, fate and transport modeling, design and installation oversight of dual-phase (soil and groundwater) treatment system, operation and maintenance, free product recovery.	City of Morgan Hill Jim Ashcraft 408-776-7337	70	1,300	500
3.	UST Release Characterization and Remediation, Pinetop, AZ	Soil and groundwater characterization, preparation of Corrective Action Plan and SAF applications, and remediation by monitored natural attenuation.	Waste Management Vince Murphy 602-763-9228	80	160	160
4.	Groundwater Characterization and Free Product Recovery, Sunflower, AZ	Installation of groundwater monitoring wells, geological mapping, soil and groundwater sampling, and free product recovery in a fractured bedrock regime.	Arizona Department of Administration Risk Mgmt Paul Carras 602-542-2862	70	180	180
5.	Round Hill Fuel/MTBE Remedial Investigation, Feasibility Study, Remedial Design, Construction and Operations and Maintenance, Round Hill, VA	Identified and removed highly-impacted soil; used over 50 wells to evaluate fractured bedrock; determined horizontal and vertical gradients; performed aquifer testing; designed, installed, and operated dual-phase extraction systems that used bioremediation treatment technology.	Virginia Department of Environmental Quality Mark Miller 703-583-3808	100	23,000	1,000

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Bradley F. Johnston, R.G.	Vice President and Office Director
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) Professional Level V or VI	Area of Expertise Hydrogeology, UST Closures, LUST Investigation, Permitting, Remediation, Regulatory Interaction
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*) Project Director, Project Manager	Education B.S. Geology, Colorado State University, 1981

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
23	23	Registered Professional Geologist, Arizona, 1991 OSHA Hazardous Waste Site Investigation Manager/Supervisor, 1988

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers, Office Director and Vice President	Jun 1988	Present
2.	Crosby and Overton Environmental Management, Inc., Staff Professional	Jan 1987	Jun 1988
3.	Cenergy Exploration, Geologist	Dec 1983	Jun 1986
4.	Patrick Petroleum, Geologist	Oct 1981	Dec 1983
5.			
6.			
7.			
8.			
9.			
10.			

Executive Summary of Career Highlights

Mr. Johnston has performed and managed over 200 UST closure, investigation and remediation projects and over 275 Phase I and Phase II investigations; at least 88 of these Phase II investigations have been related to investigation of releases from underground and aboveground tanks. Mr. Johnston has presented papers to the Arizona State Bar Association as a guest faculty member for the State Bar's continuing education program, addressing the Arizona UST regulatory program and the Arizona State Assurance Fund for underground storage tanks.

A partial listing of representative projects includes the following:

- Directed remedial investigation and design for clean up of petroleum hydrocarbon contaminated soils and groundwater at vehicle maintenance facilities in the Phoenix metropolitan area Indian Reservation lands. Closure services included tank registration as mandated by RCRA and State laws, soil sample collection and analysis, and closure reporting to the Arizona Department of Environmental Quality (ADEQ) and USEPA Region IX. Remedial investigation programs included soil borings, soil gas surveys, and groundwater monitoring networks. Data interpretation and modeling provided basis for remedial designs including excavation, soil ventilation, bioremediation, and air stripping of contaminated groundwater.

- Performed hydrogeological characterization of a remote leaking underground storage tank site located in the Tonto National Forest. Due to the limited availability of groundwater and subsurface geological information, detailed surface geological and hydrological mapping was performed to develop a conceptual model to guide additional investigation of bedrock features that influence distribution of contaminated groundwater.

Brief Resume Continued

- Managed and performed the investigation, remediation design, and permitting for a dual-phase Vacuum-Enhanced Liquid Phase Hydrocarbon Recovery system for a UST release in Tucson, Arizona. Designed and performed single-phase vapor extraction test, implemented interim free product recovery measures, provided technical support and design services for NPDES discharge permit, and planned and implemented system monitoring and regulatory reporting. Installed total fluids remediation wells, prepared design and bid specifications, provided construction permit support, and performed Construction Management services.

- Managed and performed soil vapor survey of large power distribution facility being investigated under ADEQ WQARF program. Prepared and implemented quality assurance project plan and field sampling plan, utilizing modified soil vapor sampling methods for efficient evaluation of over 100 locations, many associated with current or former UST locations.

- Managed the installation and operation of a soil vapor extraction and groundwater sparging system at a leaking underground storage tank site in South Phoenix. Included permitting, utility installation, retrofitting of existing equipment for use with new system, and operation and maintenance of system.

- Managed and performed the expedited closure, assessment, and remediation of an UST discovered during the night shift at the Bank One Ballpark during installation of underground utilities. Performed removal of damaged waste oil tank, excavation and containerization of contaminated soil, and verification sampling that defined the full extent of soil contamination in less than 10 hours. Case has been closed by the ADEQ.

- Managed and performed leaking underground storage tank activities at a former truck fueling facility at the Bank One Ballpark. Included UST closure, soil and groundwater contamination evaluation, soil remediation in areas that would be impacted by construction excavation, and legal support regarding property valuation issues.

- Performed, managed and directed soil and groundwater characterization for underground fuel storage tank releases at a large vehicle service center in Mesa, Arizona. Project included installation and sampling of 21 groundwater monitoring wells over 200 feet deep and numerous soil borings over 150 feet deep. Installed soil vapor extraction wells and performed pilot test. Assisted with preliminary design of soil and groundwater remediation system. Negotiated the terms and schedule of a consent order, and prepared a Site Characterization Work Plan and detailed schedule for completion of site investigation activities. Developed rationale and methodology for depth-specific groundwater sampling as required to evaluate the vertical extent of groundwater contamination. Analyzed geophysical borehole logs to select sampling intervals.

- Managed and performed characterization and remediation of soil and groundwater contamination associated with a fuel oil release at an asphalt processing plant on the Salt River near Phoenix, Arizona. Analyzed soil sample data to define extent of soil contamination which would respond to soil vapor extraction (SVE) and bioventing. Developed and implemented remedial alternative consisting of vapor extraction for volatile fractions of contamination, followed by modification of the SVE system to implement bioventing for non-volatile fractions.

- Directed and managed environmental engineering services associated with removal of an UST system, characterization of the extent of released product, and remediation of the release. Following identification of a suspected release from the dispensers and piping, LUST site characterization activities included backhoe excavation and soil borings. Because of the close proximity of the remediation excavation to an adjacent building, a caisson and grade beam support structure was designed and installed by a subcontractor so that excavation could take place immediately adjacent to the structure. Excavation of contaminated soil was performed to over 40 feet.

- Managed and performed leaking UST investigations in Winslow, Holbrook, and Taylor, Arizona for a governmental agency. Sites were investigated using soil borings and test pits. Historical maps and photographs used at one site to place sample locations for evaluation of other contaminant sources. Interpreted hydrocarbon characteristics to identify which portions of one of the sites had been contaminated by non-UST related historical uses.

- Managed and performed investigation and remediation of an underground storage tank release at a truck maintenance facility in Pinetop, Arizona. Included installation and sampling of soil borings and groundwater wells to evaluate the potential presence of contamination; installation of additional wells to evaluate the extent of groundwater contamination within bedrock and overlying fine-grained alluvium; preparation of a Site Characterization Report and Corrective Action Plan; and monitoring of monitored natural attenuation. Applied for and received reimbursement from the State Assurance Fund.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Kenneth H. Lister, R.G.	Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
Professional Level V or VI	Geology/Hydrogeology
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*)	Education
Senior Geologist/Hydrogeologist	Ph.D. Geology, University of Kansas, 1974

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
31	19	Professional Geologist – AZ, 1989; CA, 1987 CA - CEG, 1991; CA - CHG, 1995

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	5/87	Present
2.	Pennzoil Exploration and Production	1/77	12/86
3.	Univ. Pittsburgh, Johnstown	9/74	5/75
4.	Univ. Kansas	1/72	5/73
5.	State Univ. New York, Stony Brook	9/70	12/71
6.	St. Anthony High School	9/69	6/70
7.	Univ. Calif., Los Angeles	1/69	6/69
8.	Univ. Calif., Los Angeles	9/67	12/67
9.			
10.			

Executive Summary of Career Highlights

- Project Manager for multiple former underground storage tank sites in the Los Angeles area for a large dairy with retail fuel facilities. Vadose zone soils and groundwater were impacted at several sites. Groundwater monitoring wells were installed and monitored. Vadose zone wells were installed and soil vapor extraction pilot testing conducted. Vadose zone soil and groundwater remediation has been designed, permitted, and implemented.

- Project Manager for remedial investigation and feasibility study at the Angeles Chemical State Superfund Site in Santa Fe Springs, CA. The operating site contained 35 underground storage tanks that held various solvents plus petroleum fuels plus several above ground storage and process tanks. Tasks included hydrogeological characterization; removal of the underground storage tanks; and testing, permitting, and installation of a vapor extraction system designed to remove a mixture of as many as 12 volatile solvents.

- Project Manager for site investigation and remediation for a dry cleaning facility located in a regional shopping center in Goleta, CA. Tetrachloroethene and its breakdown products have been found in soil, soil vapor, and groundwater samples. Investigative effort has concentrated on determining extent of impacts to multiple groundwater zones and feasible remediation approaches, including injection of chemicals designed to promote reductive dechlorination.

- Project Manager for investigation and remedial action for an approximately 15-acre area in Santa Barbara, CA, involving three dry cleaning facilities, a former vehicle maintenance area, and several thousand feet of sewer main. The project has included construction of monitoring wells in several aquifer zones, soil and groundwater sampling and analysis, aquifer testing, fault studies, and document preparation of the remedial action plan for groundwater.

Brief Resume Continued

- Project Manager for site investigation on four parcels (total of approximately 67 acres) of a 160-acre former aerospace manufacturing facility in Downey, CA. Soil and soil vapor investigations included areas of underground storage tank and former degreasing operations.

- Project Manager for RCRA closure at a former aerospace manufacturing facility in Van Nuys, CA. Closure plan implementation consisted of investigation of nine waste treatment or storage facilities on a 54-acre site. Site-wide investigation was also conducted including soil vapor survey, soil sampling to 130 feet, multi-zone groundwater characterization and continued monitoring, and remedial action. In addition, numerous underground storage tank closures were conducted to obtain local regulatory agency approval for the redevelopment.

- Project Manager for the 1,100-acre former Kaiser Steel plant in Fontana, CA, including remedial investigation, feasibility studies, and remedial action. Portions of the site were found to contain soils impacted by coal tar components and heavy metals. The largest operable unit (approximately 500 acres) of this State Superfund site was cleaned up on a rapid turn-around basis and redeveloped into an automobile race track. Site closure included removal and in situ soil vapor extraction at an underground storage facility containing 18 by-product tanks.

- Project Manager for an RCRA facility assessment at a former pesticide storage and disposal site in Pico Rivera, CA. Site was used for over 60 years for formulation, collection, storage, and underground tank disposal of waste liquid pesticides received from the public (over 200 pesticides received). Activities included soil sampling, multi-depth groundwater well construction and sampling, soil removal actions, and closure of a septic system used for disposal of pesticide container rinsings. Other activities involved preparation of a closure plan, health risk assessment, and corrective action plan.

- Project Manager for remedial investigation, design, and construction for a pesticide-impacted site located on a portion of the Thermal Airport, CA. Design and construction involved a composite soil/synthetic membrane cap and other facilities to isolate the affected area from potential receptors.

- Project Manager for investigation and remediation for a site located in the Puente Valley Well Investigation Program (part of the San Gabriel Valley Superfund site). Multiple phases of soil, soil vapor, and groundwater sampling have occurred, due to impacts by chlorinated hydrocarbons. A soil vapor extraction system was designed, installed, and was operated until site closure was received.

- Project Manager for remedial action and hydrogeological studies in support of closure for a former oil production facility in Los Angeles. This site, located on a public beach, contained underground storage tanks, above ground tanks, and other facilities. Tasks included excavation of impacted soil, installation and monitoring of groundwater and vapor wells, and a natural attenuation study.

- Project Manager for the hydrogeological assessment of the former Armco Steel site in Torrance, CA. Project consisted of groundwater monitoring well installation, sampling, and analysis and interpretation in terms of local and regional hydrogeology.

- Task Manager for hydrogeological characterization at the Del Norte Superfund site near Crescent City, CA. Activities included groundwater well installation, extended aquifer testing, water sampling, and assistance in remediation design.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Lenard D. Long, P.E.	Project Director
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	**Area of Expertise**
Professional Level V or VI	Remediation Design and Construction
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist,*	**Education**
Senior Remediation Design and Construction Engineer	B.S. Civil Engineering, California State University Chico, 1976 Postgraduate Studies, Soil Engineering, California State University, San Jose, 1978-79

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
28	28	Professional Civil (80) and Geotechnical (86) Engineer - CA Class A General Contractor with HazMat Certification (88)

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	1998	present
2.	Brown and Caldwell	1996	1998
3.	ERM	1994	1996
4.	Sunriver Engineering and Construction (L. Long owner)	1992	1994
5.	DuPont	1990	1992
6.	Alpha Consultants (L. Long owner), firm purchased by Dupont	1984	1990
7.	Berlogar Long & Associates	1980	1984
8.	Harding & Lawson Associates	1979	1980
9.	Berlogar Long & Associates	1976	1979
10.			

Executive Summary of Career Highlights

Mr. Long has a record of successfully managing environmental and construction projects for the petroleum, chemical, transportation, utility and manufacturing industries. His experience includes the management of multi-disciplined technical staff for regulatory compliance issues, investigations, feasibility studies, systems design, operations and maintenance. His experience also includes monitoring and remedial construction for projects ranging in size up to $20 million dollars. Representative projects include the following:

- Designed and performed above ground bioremediation (landfarming) of 2,000 cubic yards of diesel impacted soil, Catellus Corp., Huron, California. The treatment included irrigation management, nutrient addition and periodic soil mixing.

- Designed and constructed an enhanced insitu bioremediation treatment system for a fuel hydrocarbon spill. The system consisted of groundwater extraction and re-injection using hydrogen peroxide as the oxygen source for a redevelopment site in San Jose.

- Remediation projects range from service station sites to 100-acre chemical plants. Types of contaminants encountered typically range from gasoline to crude oil, organic lead, mercury, and arsenic to TCE, TCA, PCE and other solvents. He was responsible for the design and construction of a $2.5 million dollar pump and treat system for a major chemical plant. The systems include air stripping, off-gas air treatment with vapor phase carbon and aqueous phase liquid carbon polishing to remove organic lead.

Brief Resume Continued

- Performed the surgical removal of hydrocarbon-impacted soil, the impacted soil was located from 60 to 80 feed below the ground, using large diameter augers for Ace Oil State Superfund, Galt, California. Using large diameter drilling techniques to remove the impacted soil allowed removal without massive excavation and shoring, thereby saving hundreds of thousands of dollars.

- Designed and constructed a 50-foot deep excavation for the Los Angeles Center development removing 50,000 cy soil, of which 2,000 cy was fuel-impacted, in downtown Los Angeles. The work involved many meetings with multi-party, multi-consultant and multi-legal council, on a very visual and sensitive site subject to development of a skyscraper. The impacted soil was landfarmed onsite and then removed.

- Managed a $2 million multi-chemical groundwater treatment system design along with its construction on a 100-acre Chemical Plant in Antioch, California. The system included co-mingling plumes, twenty cluster wells, 200 gpm air stripping tower with aqueous phase carbon polishing and vapor phase carbon off-gas treatment. Using steam, the vapor phase carbon unit was designed for onsite regeneration.

- Managed the groundwater and vapor extraction systems Operation and Maintenance Program, ($1 million annual budget), for Southern Pacific Railroad in Sacramento, California. This program included multi-phase extraction systems, catalytic off-gas treatment, off-gas scrubbing, and groundwater air stripping and carbon treatment.

- At numerous sites throughout California, Mr. Long has managed underground storage tank remediation programs for Unocal and Conoco Oil Companies. The multi-million dollar programs included setting strategy, agency negotiation, site investigations, feasibility studies, remedial action plans, treatment system implementation, operation and maintenance, and quarterly monitoring. Remediation included pump and treat, vacuum extraction, sparging, bioremediation, dig and haul, etc.

- Mr. Long is the engineering consultant for assessment, feasibility studies, design, and implementation of a 50-gpm water treatment system in Morgan Hill to remove MTBE and other gasoline compounds resulting from a fuel spill. The evaluations include working with hydrogeologists to model the plume using 3D Modflow techniques. The system consist of dual-phase water and vapor extraction, air stripping, catalytic oxidation of the air stripper off-gas and final carbon polishing.

- Mr. Long was the lead engineer at the Santa Fe Inter-modal Terminal in San Bernardino, California. He has completed the design and construction management of a two million dollar, 7000 scfm, soil vapor phase treatment system for the removal of Volatile Organic Compounds.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Paul Damian, Ph.D., MPH, DABT	Risk Assessment Practice Leader
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) Professional Level V or VI	Area of Expertise Toxicology and Pharmacology
Proposed Project Role *(e.g. Project Manager, Project Engineer, Project Hydrologist, ect.)* Project Manager and Senior Technical Advisor for Risk Assessment	Education PhD, Toxicology and Pharmacology, University of California, Davis, CA, 1995 MPH (Master of Public Health), Environmental Health, University of Michigan, Ann Arbor, MI, 1984 BS, Natural Resources, University of Michigan, Ann Arbor, MI, 1981

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
21	21	Diplomate, American Board of Toxicology (DABT), 1997 (Recertified 2003)

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	12/04	Present
2.	Chemical Risk Sciences International	3/03	12/04
3.	Tetra Tech EM Inc.	9/99	3/03
4.	Earth Tech, Inc. (formerly Rust Environment & Infrastructure)	9/97	9/99
5.	Food Animal Residue Avoidance Databank, Dept. of Environmental Toxicology, University of California-Davis	6/90	8/97
6.	Delta Environmental Consultants, Inc.	6/89	4/90
7.	Envirosphere	2/88	6/89
8.	Radian Corp.	9/86	2/88
9.	Ohio Environmental Protection Agency	1/85	8/86
10.	Hazard Assessment Unit, Toxic Chemical Evaluation Section, Michigan Dept. of Natural Resources	3/84	1/85

Executive Summary of Career Highlights

Dr. Damian is a Board Certified Toxicologist with over 20 years of experience assessing the human health and ecological risks associated with chemical contamination of the environment and workplace. He is the National Partner for Risk Assessment at SCS Engineers.

Dr. Damian's project experience has included directing and preparing risk assessments and risk assessment work plans for UST sites, hazardous waste sites, military bases, mine and smelter sites, radiation sites, landfills, and Brownfields. His experience also includes chemical and drug product safety assessment, contaminated building risk assessments, and expert witness testimony. Dr. Damian brings advanced risk assessment expertise to our clients, including Monte Carlo (probabilistic) risk assessment and toxicokinetic modeling. Dr. Damian has been trained at Argonne National Laboratory in the use of RESRAD, the leading computer model for assessing risks associated with radioactively contaminated sites.

Brief Resume Continued

Dr. Damian's specific project experience includes:

- Prepared a health risk assessment for a former scrap metal recycling site in Tempe, Arizona consistent with Arizona Department of Health Services (DHS) risk assessment guidelines. The assessment included both deterministic and probabilistic (Monte Carlo) assessment of health risks associated with residual arsenic, lead, and PCBs in soil. The Monte Carlo assessment resulted in an estimated savings of about $1.5 million in cleanup costs for the client.

- Prepared a health risk assessment for a former mine facility site near Morenci, Arizona, consistent with Arizona DHS risk assessment guidelines. The assessment evaluated health risks associated with residual soil levels of arsenic. The following exposure pathways were evaluated: soil ingestion, inhalation of soil particulates, and dermal contact with soil. The assessment concluded that health risks to a hypothetical occupational population would be negligible.

- Prepared a health risk assessment for a former mine tailings disposal site near Clifton, Arizona, consistent with Arizona DHS risk assessment guidelines. The assessment evaluated health risks associated with residual soil levels of arsenic and copper following site remediation. The following exposure pathways were evaluated: soil ingestion, inhalation of soil particulates, and dermal contact with soil. The assessment concluded that health risks to hypothetical residential, occupational, and student population receptors would be negligible.

- Prepared baseline human health and ecological risk assessments for a landfill site in southern California. Evaluated potential risks associated with metals, explosives, dioxins and furans, polynuclear aromatic hydrocarbons, VOCs, and pesticides. The risk assessments were approved by the California Department of Toxic Substances Control (DTSC).

- Prepared draft basewide human health risk assessment protocol document for the U.S. Navy for the former Alameda Point Naval Air Station, Alameda, California. Arranged meetings with the U.S. Navy, California DTSC and U.S. EPA Region 9, and led negotiations regarding development of the basewide human health risk assessment protocol document.

- Prepared health and ecological risk assessment work plan for a 1,000-acre Brownfields site in southern California. The work plan was approved by the California DTSC.

- Project manager for a Removal Action Work Plan (RAW) and Site Remediation Completion Report (SRCR) for a 100-acre explosives site. The California DTSC approved the RAW and SRCR, and the site was certified closed.

- Prepared a Monte Carlo (probabilistic) risk assessment for a chemical widely used in the semiconductor industry. The assessment resulted in an estimated savings of $15 million in retooling costs for a major semiconductor manufacturer.

- Project manager for a human health risk assessment for a 100-acre Brownfields site in northern California. An explosives-manufacturing company formerly owned the site and the site was contaminated with explosives and metals.

- Prepared a groundwater vapor intrusion risk assessment for a UST site owned by a national manufacturer of luggage. The risk assessment resulted in closure of the site within 3 months.

- Prepared a data usability memorandum to support baseline human health and ecological risk assessments for a landfill site in southern California. The data usability memorandum was approved by the DTSC.

- Prepared a radiological hazard assessment for a former uranium mine in Stanislaus County, California. Evaluated immediate health hazards associated with gamma radiation, radon exposure, consumption of radionuclide-contaminated drinking water and soil, and potential contamination of beef cattle with radionuclides. Used RESRAD and direct measurement of gamma emissions, radon concentrations in ambient air, and airborne particulate concentrations of radionuclides to assess radiation dosages for recreational users of the site. Also developed human health and ecological screening benchmarks for acceptable levels of radionuclides in soils, surface water and sediments.

- Project Manager for several baseline multi-pathway human health and ecological risk assessments for a 1,000-acre former propellant-manufacturing site.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Mark Varljen, R.G.	Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) Professional Level IV or V	Area of Expertise Geology, hydrogeology, well installation, micropurge sampling technology, fate and transport modeling
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.*) Senior Project Hydrogeologist/Modeler	Education M.S. Civil Engineering (Hydrosystems/Environmental), University of Illinois at Urbana-Champaign, 1990

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
19	19	Registered Professional Geologist, Washington, 2002

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	2000	present
2.	Applied Hydrogeologic Research, Inc.	1994	2000
3.	Hart Crowser, Inc.	1992	1994
4.	Illinois State Water Survey	1988	1992
5.	Hanford Site	1986	1988
6.			
7.			
8.			

Executive Summary of Career Highlights

- Managed and performed natural attenuation fate and transport evaluation of dry cleaning facility. Completed evaluation of monitored natural attenuation feasibility through geochemical evaluation (including development of groundwater monitoring program involving dissolved gas analysis and field determination of sensitive parameters) and simple groundwater modeling (BIOCHLOR).

- Performed and managed landfill groundwater monitoring technical assistance. Reviewed existing well information (well depth and placement, construction, well condition, etc.) for 30 monitoring wells, reviewed groundwater conceptual model, and recommended groundwater sampling protocols for obtaining representative data at a lower cost that will meet monitoring objectives. Subsequently provided training of Metro staff, oversight of sampling activities by METRO Staff, and worked with the Oregon Department of Environmental Quality (DEQ) to obtain program approval.

- Performed and managed groundwater flow and contaminant transport modeling for dry cleaning facility. Coalesced regional and site-specific hydrogeologic characterization data and developed a 3-dimensional groundwater flow and contaminant transport model (implemented with the computer codes MODFLOW, PMPATH, and MT3D) to track contaminant movement from a former dry cleaning facility to where groundwater discharged to nearby surface water bodies. Initial contaminant conditions were determined via geostatistical estimation from on-site soil and groundwater monitoring data. Modeled travel times and contaminant breakthrough concentrations were used assess the need for remedial action.

- Planned and conducted investigation of soil and groundwater contamination resulting from releases of petroleum compounds from four USTs. Involved characterizing the temporal variability in the direction and magnitude of groundwater flow due to tidal influences, which resulted in the identification of an off-site source of contamination.

Brief Resume Continued

- Performed groundwater modeling for contaminant release determination/litigation support for dry cleaning facility. Developed a three-dimensional groundwater flow model for a shallow aquifer system in weathered and fractured bedrock to estimate groundwater travel times from potential contaminant source areas to locations where contaminants had been identified. Project activities involved examining available aquifer test data to verify the fractured bedrock could be assumed to behave as an unconsolidated aquifer, determining representative aquifer property parameters, calibrating the model to observations, and completing a flow/path and travel time analysis. The modeled travel times were compared to historical land use records to identify likely contaminant release areas. A sensitivity analysis approach was employed to account for uncertain input parameters and "bracket" contaminant release dates.

- Performed and managed groundwater modeling and remedial design for chor-alkali plant. Developed a three-dimensional groundwater flow model to understand the dynamics of groundwater flow at the plant, calculate discharge fluxes from the site for risk assessment, visualize site-wide groundwater flow paths, and evaluate remediation alternatives. Calibrated the model to two rounds of extensive water level measurements and used it to design a remediation system which contained a zone of mercury-contaminated groundwater with a minimum amount of groundwater pumping.

- Managed and performed fate and transport analysis and remedial measures evaluation for Naval shipyard. Developed spatial information management system to coalesce field and analytical data from diverse sources and formats that had been gathered over 5 years of various disjointed characterization programs previously implemented across the Shipyard, and conducted detailed 3-dimensional groundwater flow and solute transport modeling in support of remedial investigation/feasibility study work for Operable Units A and B. Flow modeling efforts required simulating transient effects of tidal surges and groundwater drawdown created by six drydocks. Initial conditions for solute transport modeling were developed via a geostatistical analysis of groundwater sampling data. The remedial measures evaluation included simulating effectiveness of a proposed barrier containment wall.

- Managed and performed Remedial Investigation/Feasibility Study, U.S. Naval Submarine Base. Directed and conducted field investigations of soil and groundwater contaminated with ordnance compounds, and conducted extensive analytical and numerical modeling of contaminant transport for risk assessment and evaluation of groundwater remediation options (completed fully three-dimensional flow and transport modeling for design of pump-and-treat system).

- Site characterization and remediation of saw mill facility. Characterization included adaptive soil and groundwater sampling using direct-push techniques and in-field screening analyses to guide the sampling pattern. Seriously affected soils were removed and alternative risk-based cleanup levels were determined. Both areas were closed under Washington State's Voluntary Cleanup Program.

- Managed and performed liability evaluation and contamination assessment at SeaTac Airport, WA. Critically reviewed investigations of soil and groundwater contamination conducted by airlines to evaluate claims by each that a pipeline company contributed to the area-wide contamination through leaks at their distribution facility. Subsequently conducted soil gas survey and soil sampling to determine extent of soil contamination in the vicinity of an industrial waste sewer line which was used by the pipeline. Provided technical support during liability allocation negotiations.

- Completed rigorous independent sampling of monitoring wells at the request of Plaintiff's attorney's. Sampling was completed using "low-flow" techniques and demonstrated erroneous sampling results by Defendant's contractor due to improper field procedures.

- Hydrogeologic Characterization and Contamination Assessment. Conducted an adaptive site characterization effort to define the extent of hydrocarbon contamination and define hydrogeologic conditions including temporally-variable groundwater flow conditions. Innovative approach using direct-push sampling technology and on-site analysis allowed for complete definition of the zone of contamination under the manufacturing facility building floor. Developed clean-up levels for the site using a risk-assessment approach, and verified that groundwater was not being impacted through low-flow groundwater sampling. Work resulted in the issuance of a ‘No Further Action” determination.

- Project manager for long-term monitoring and operation of 1200GPM groundwater pump and treat system aimed at remediation of explosives (RDX, TNT) contaminated groundwater**.** Duties include system optimization, and planning for expedited remediation due to recent base closure announcement

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Steven C. Lamb, P.E.	Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
Professional Level IV or V	Remediation Design and Construction
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*)	Education
Senior Remediation Engineer	B.S. Civil Engineering, University of Arizona, 1987

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
17	17	Professional Engineer – AZ, NC, SC, OH

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	May 1998	present
2.	ERM-West	Jul 1996	Feb 1998
3.	Civil and Environmental Consultants	Apr 1992	Jun 1996
4.	Westinghouse Environmental and Geotechnical Services	Mar 1990	Mar 1992
5.	Dames and Moore	Jan 1988	Feb 1990
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Executive Summary of Career Highlights

Mr. Lamb provides SCS with experience in solid and hazardous waste management, environmental engineering, remediation, and remedial design. Projects include soil and groundwater contamination assessments; hazardous waste management; remedial design, and remedial action implementation. He is responsible for all phases of project work, including developing work plans and specifications, performing and supervising fieldwork, preparation and review of reports, budgeting, client contact, and quality control.

Mr. Lamb's experience includes site characterization and remediation of active and inactive industrial, commercial, solid waste facilities, mining, and agricultural sites. These investigations have included groundwater, vapor, soil, and waste sampling; installation and monitoring, vapor monitoring wells; environmental compliance auditing; feasibility studies; and development and implementation of closure plans.

- Provided construction oversight and review of contractor submittals during the construction of a groundwater extraction, treatment, and recharge system, at the Air National Guard Base at the Tucson International Airport. The system included seven extraction wells; five recharge wells, and treatment using low-profile air strippers.

- Managed and performed the design and permitting for a dual-phase Vacuum-Enhanced Liquid Phase Hydrocarbon Recovery system for a fuel UST release at the Price Service Center in Tucson, Arizona. Prepared construction drawings, specifications, and bid documents for soil vapor extraction and total fluids recovery system to treat petroleum-impacted soils and groundwater. The treatment system includes 19 soil vapor extraction wells, a total-fluids extraction well, a thermal oxidizer for vapor phase treatment, and granular activated carbon for groundwater treatment.

- Managed the design, permitting, and construction of a 200-cubic-feet-per-minute soil vapor extraction system for chlorinated VOC-impacted soils at the Air National Guard Base, Tucson, Arizona.

Brief Resume Continued

- Provided engineering oversight during the construction, operation, and maintenance of a full-scale soil vapor extraction/air sparging system at the Air National Guard Base, Sky Harbor International Airport. Included installation of seven soil vapor extraction wells, five air sparge wells, and vapor treatment using catalytic oxidation.

- Managed the design, permitting, and procurement of the treatment equipment for a 24-well SVE remediation system for chlorinated VOC-impacted soils at a facility in southern California. The treatment system included a 350-cfm vacuum extraction unit, vapor phase carbon vessels, and a programmable logic control center.

- Managed the remedial design for a groundwater extraction, treatment, and recharge system, including preparation of construction drawings, specifications, and a bid form for petroleum-impacted groundwater at a Reno, Nevada facility. The groundwater treatment system included the following: Oil/water separator, bioreactor, and vapor phase granular activated carbon vessels.

- Participated during all phases of an SVE-pilot study for a facility impacted with halogenated volatile organic compounds (1,1,1-TCA, PCE, and 1,1-DCE). The SVE pilot study project included the preparation of an SVE Pilot Study Workplan, implementation of the workplan, evaluating the pilot study data, and preparing the final SVE Pilot Study Report.

- Provided project management and oversight for numerous Phase I and Phase II environmental assessments for the City of Phoenix for various types of properties including, residential, vacant land, commercial, and right-of-ways. Phase I assessments included additional regulatory search distances, archaeological research, and other site history research as requested by the City. Phase II investigations included soil, soil vapor, and groundwater.

- Managed the removal of underground storage tanks (UST) at several project locations. Duties included monitoring UST removal, sampling and analyzing site soils to determine the integrity of USTs, and preparing Certification Closure Reports for appropriate state agencies.

- Directed the Remedial Design for a groundwater remediation project in Central Phoenix. The Remedial Design included three 50 gallon per minute extraction wells, conveyance piping and a treatment system (air-stripper).

- Managed the site investigation of 55 solid waste hauling, transfer and disposal facilities in Arizona for Waste Management. The site investigations determined applicability of storm water permits and storm water compliance activities. A complete inventory of current permit status, required permits and permit changes was prepared. Over 15 permits were changed or up-dated. Permit changes led to the preparation of eight Stormwater Pollution Prevention Plans (SWPPP) for the various facilities.

- Participated in RI/FS for closure of a hazardous waste CERCLA-regulated landfill in Ohio. Developed conceptual designs and cost estimates for ten closure alternatives and performed cap integrity study at the site.

- Developed Statement of work for remedial design to close a 25-acre CERCLA-regulated landfill in Ohio. Involved negotiations with state and federal agencies regarding the selected remedy.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
David E. Brewer	Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
Professional Level V	UST Compliance, Investigation, Remediation
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*)	Education
Senior Geologist	B.S. Geology, Fort Hays State University, 1977

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
28	16	Registered Geologist Kansas, Missouri, Nebraska

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	5/2001	present
2.	McLaren/Hart	5/1999	5/2001
3.	Evergreen Environmental	1/1996	5/1999
4.	Professional Service Industries	10/1992	1/1996
5.	Nebraska Department of Environmental Quality	11/1989	10/1992
6.	Anadarko Production Company	4/1977	11/1989
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Executive Summary of Career Highlights

Mr. Brewer has over 28 years of professional experience. Mr. Brewer worked for 12 years as a professional geologist in the petroleum industry in the Mid Continent and Rocky Mountain regions. For the past 16 years, Mr. Brewer has managed site assessments, remedial investigations, feasibility studies, and major remedial actions at over 100 industrial and commercial facilities throughout the U.S. Project activities have included due diligence, permitting, compliance, facility audits, facility decommissioning, site characterization, risk assessment, air quality assessments, lead and asbestos abatement, demolition and soil and ground water remediation.

- Phase II contamination assessment. Designed and implemented a UST removal and remedial design program to address contaminated soil at the facility. Other activities included RCRA compliance audits, hazardous waste remediation and disposal services, and decommissioning of a former sewage treatment plant.
- Provided Project Management of the installation of groundwater pump and treat and SVE remediation systems at the City of Kansas City, Missouri Water Services Dept. maintenance facility and wastewater treatment facility in Kansas City. Provided engineering review of the designs, remedial equipment purchase, installation, and twenty-four months of O & M and sampling associated with system operations.

Resume Continued

- New Jazz Hall of Fame and Negro League Museum, City of Kansas City, Missouri. Designed and implemented a site remediation project including the removal of three UST's and the excavation and disposal of 1,400 cubic yards of contaminated soil.

- Provided Project Management of a facility cleaning project at the Former Sinclair Refinery in Kansas City, Kansas. The project was in response to a consent order issued by EPA and KDHE to Sinclair and associated parties regarding existing contamination found in the soils and groundwater at the facility.

- Provided Project Management for the removal of three underground storage tanks from the test cell area located under Building 87 at the U.S. Department of Energy Kansas City Plant. Project requirements included pumping tanks and vaults dry, vacuuming all sand backfill from around tanks, cutting tanks into sections for removal and filling remaining vaults with concrete grout.

- Performed Project Management of total facility de-commissioning project including assessment and remediation of all wastes from the wastewater treatment plant and associated lagoons, tank farm, waste disposal area and seven on-site buildings at the Ford Visteon Parts Division, Puerto Rico.

- Performed Site Assessments at multiple sites in Kansas for the KDHE Storage Tank Trust Fund. Assessments were performed for QuikTrip, Kwik Shop, Rex's Tire, Dillon's Stores, Casey's General Stores, Total, Texaco and numerous municipalities and local governments.

- Provided Project Management for the installation of air sparge/SVE remediation system's at the Joe's Fina, Pop N' Shop, Southwest Oil, Sylvia Coop, and Collingwood Grain sites for the KDHE. Provided engineering review of the design, remedial equipment purchase, installation, and twenty-four months of O & M and sampling associated with system operation.

- Tier 1 Investigation, Federal Buildings, Lincoln, and Omaha, Nebraska. Presently performing a Tier 1 Investigation of petroleum hydrocarbons associated with the former underground storage tank (UST) at the buildings. Project activities include performing soil sampling, groundwater monitoring well installation, sampling, and data collection and review.

- Norfolk Southern, Kansas City, Missouri. Provided Project Management for numerous remediation and disposal projects related to a railroad fueling and maintenance facility.

- Provided Project Management for the installation of a dual phase product/dissolved phase remediation system at White Star Oil in Albion, Nebraska. Provided engineering review of the design, remedial equipment purchase, installation, and O & M and sampling associated with system operation.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Patricia M. Hartshorne, R.G.	Senior Project Geologist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) Professional Level III, IV, or V	Area of Expertise Geology, site characterization, work plan preparation, laboratory QA/QC.
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*) Project Geologist	Education M.S. Geosciences, University of Arizona, 1988

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
16	16	Registered Geologist #31004, 1997 OSHA Haz. Waste Site Investigation Manager/Supervisor, 1990 AHERA Asbestos Inspector, 2003 AHERA Asbestos Contractor/Supervisor, 2005 EPA Lead Inspector/Risk Assessor, 2003

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	12/10/1990	present
2.	Hargis + Associates	11/1989	10/1990
3.	ASARCO	5/1989	8/1989
4.	Pima Association of Governments	11/1988	4/1989
5.	ASARCO	8/1988	10/1988
6.	Pima Association of Governments	6/1987	3/1988
7.			
8.			
9.			
10.			

Executive Summary of Career Highlights

Ms. Patricia M. Hartshorne, R.G. has been performing environmental and solid waste management projects for SCS Engineers since 1990. Ms. Hartshorne's qualifications include management, interpretation, and presentation of data generated by small and large multi-task projects. She has extensive experience in Phase I and II environmental assessments of industrial, commercial, and agricultural sites and remedial activities at hazardous and non-hazardous project sites. This includes historical and regulatory research, collection of soil and groundwater samples, supervision of subcontractors, health and safety compliance, data management, interpretation of laboratory analytical results, remediation oversight, and technical report preparation. In addition, her experience in underground storage tank (UST) investigations includes closure, site characterization, preparation of Sampling and Analysis Plans, and release investigations. She has performed and managed more than 300 environmental assessments, remedial investigations, and landfill investigations in Arizona, California, New Mexico, Missouri, Colorado, Louisiana, Texas, and Ohio.

The following is a partial listing of representative projects:

- Managed and performed an environmental assessment of the El Campo Tire property, which was under consideration for acquisition by the City of Tucson under the EPA Brownfields program. The assessment included closure of on-site USTs, and investigation of contamination associated with off-site USTs, soil staining near an automotive maintenance area, and a former salvage yard area. A Sampling and Analysis Plan was prepared and submitted to EPA for review prior to the start of work. The project involved a geophysical survey, excavation of exploratory test pits, drilling of soil borings, collection and analysis of soil samples, data validation of laboratory reports, and preparation of technical reports. UST site investigation and closure documents were prepared and submitted to ADEQ.

Brief Resume Continued

- Managed and performed closure of three USTs found at a residential development during construction activities. The closure and Site Characterization activities were performed under a short time frame so as to allow construction to continue with as little delay as possible. Soil was excavated to meet Arizona residential soil remediation levels.

- Performed an investigation of the former location of three USTs at a facility in Tucson. Tasks performed included supervision of drilling of four soil borings to depths of 90 feet below ground surface, collection of soil samples at 5-foot intervals, and analysis of findings. Prepared a Site Characterization Report for the site under the State Assurance Fund.

- Managed and performed an exploratory backhoe investigation of metallic geophysical anomalies that had been identified adjacent to Fremont Road in Tucson. The backhoe investigation identified one in-place UST, which was then removed and a closure investigation was performed.

- Performed an extensive file and historical aerial photograph review of former and current aboveground and underground storage tank systems and other issues of potential environmental concern within the future Automatic People Mover Phase I Project Site Study Area at Sky Harbor International Airport for the City of Phoenix Aviation Department. Prepared a report documenting each of the tanks, other features, and environmental issues identified within the study area, and the potential concerns.

- Managed and performed closure of two USTs for City of Tucson. The USTs had to be closed in-place due to excessive caving of backfill material and proximity to buildings. Performed oversight of excavation and push-probe soil boring activities, collected soil samples for analysis, and prepared site characterization and closure documents.

- Managed and performed an investigation of the Arroyo Chico stormwater detention basin area for the City of Tucson and Pima County. Phases of the investigation included collection of surface soil samples, drilling and sampling of soil borings, percolation testing, installation and sampling of groundwater monitoring wells, sampling of surface water, long-term continuous monitoring of groundwater levels, groundwater modeling, and preparation of technical reports. Coordinated locations of the groundwater monitoring wells through discussions with ADEQ due to the proximity of the site to the Park-Euclid WQARF area. Coordinated several different phases of the investigation with subcontractors, Pima County, and City of Tucson personnel. Prepared a final technical report that encompassed all phases of the investigation.

- Performed Phase I and II ESAs of approximately 20 parcels within the Bank One Ballpark project area in Phoenix. Assessments included extensive historical research and compilation of findings, management of large amounts of data, review and summarization of groundwater contamination issues, and preparation of technical reports. Performed Phase II investigations for historical features of concern, including collection of soil samples, and oversight of geophysical surveys, soil vapor surveys, soil borings, and excavations. Performed leaking underground storage tank investigative activities at a former truck fueling facility, including oversight of exploratory backhoe excavations, remediation of soils, and soil sampling to evaluate the extent of contamination and for waste characterization

- Performed pesticide investigations and UST closures for the Arizona State Land Department and Arizona Department of Risk Management at several inactive agricultural airstrips. Reviewed lease records, historical aerial photographs, and conducted interviews with former site personnel to focus sampling on areas of greatest historical activity. Arranged for and observed archaeological surveys. Collected surface samples and subsurface samples at former UST locations, waste burial areas, septic systems, leach fields, and aircraft washing and maintenance areas. Interpreted the results of the investigations and prepared technical reports, including a Site Characterization Report for one UST. Assisted with and prepared Remedial Action Plans for the sites. Performed and managed remedial activities at three of the sites.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Jorge P. Gutierrez	Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
Professional Level IV	Construction Management/Oversight
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*)	Education
Construction Project Manager	M.S. Civil Engineering, University of Pittsburgh, 1975

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
30	30	Environmental Assessor, California, 1989 Environmental Professional, National, 1990

Employment History

	Firms Name	Start Date	End Date
1.	Chester Engineers, Pittsburgh, Pennsylvania	1975	1980
2.	PRC Toups, Orange, California	1980	1983
3.	Crowley Environmental, Long Beach, California	1983	1985
4.	Crosby & Overton, Long Beach, California	1985	1988
5.	SCS Engineers, Long Beach, California & Phoenix, Arizona	1988	Present
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Executive Summary of Career Highlights

Mr. Gutierrez has more than 27 years of professional experience in the fields of environmental assessment, hazardous waste management, landfill gas management and domestic and industrial wastewater treatment. Mr. Gutierrez has served as project director, project advisor, project manager or principal investigator on more than 350 environmental engineering projects.

Throughout his professional career, Mr. Gutierrez has been involved in several superfund projects, including the OII site in Monterey, California. He is fluent in English and Spanish.

- Performed Construction Quality Assurance (CQA) services during the installation of a dual-phase Vacuum-Enhanced Liquid Phase Hydrocarbon Recovery System (VELPHR) at a geologically complex site in Tucson, Arizona. Tasks associated with this project included the review and approval of Contractor submittals, preparation of clarifications or shop drawings, observation and documentation of the Contractor activities, and coordination between the client and contractor personnel. Also managed installation of vapor and groundwater monitoring and remediation wells.

- Managed the design, construction, and operation of a landfill gas (LFG) recovery system for the Salt River Pima-Maricopa Indian Community in Phoenix, Arizona. Components of the LFG recovery system included the design and installation of three separate LFG systems. One of the systems is currently generating electricity.

Brief Resume Continued

- Managed and performed oversight of the demolition of an aircraft maintenance facility at Sky Harbor International Airport. Included investigation of alleged underground storage tank locations, re-routing of wastewater piping, and removal of hydraulic lifts and a freight elevator.

- Managed the design and installation of a vapor extraction system at a former oil refinery in Carson, California. The vapor extraction system consisted of several horizontal collectors (installed in contaminated soil), a conveyance system, and a thermal/catalytic treatment system.

- Managed the removal of 18 underground gasoline/diesel tanks at a military complex in northern California. The scope of work consisted of removing the tanks, assessing the contaminated materials in the excavations, and providing remediation services.

- Managed a several underground storage tank management projects with various oil companies. Specific activities associated with these projects included preparation of work plans, removal and disposal of underground tanks, site assessment investigations, and cleanup/recovery operations.

- Managed the design and installation of a groundwater pump and treat system in San Fernando Valley, California. The dual media treatment system (Klensorb and activated carbon) was designed to treat petroleum hydrocarbons at a flow rate of up to 200 gpm and effluent quality of less than 1 ppb of benzene.

- Performed a Fuel Pollution Study on a tank farm located on the island of Diego Garcia. Responsibilities included installation and sampling of groundwater wells, the assessment of the nearby water production wells, and the development of a remediation plan.

- Performed the development of a Hazardous Waste Management Program for Northrop (El Segundo, California). Objectives of the program included the investigation of the existing hazardous waste handling methods, identification of the internal infrastructure within the corporation necessary to respond to the management philosophy, and development of the corporation's goals for the Hazardous Waste Management Program.

- Managed the design and installation of a LFG control system at a superfund landfill site in southern California. Tasks associated with this project included the coordination of the LFG work with other site consultants and contractors, performing the work in accordance with the site's Health and Safety Plan, and preparing progress reports, including project schedule updates.

- Managed the construction of a landfill gas control system at the Glendale, Arizona landfill. The project consisted of installing several methane gas extraction wells, below ground HDPE piping, condensate sumps, and a blower/flare system.

- Managed the construction of a LFG control system in the city of Santee, California. Specific tasks associated with this project included the installation of 51 landfill gas extraction wells, approximately 20,000 feet of HDPE below ground piping, condensate sumps, and one blower/flare station.

- Managed a site characterization on a 7-acre property in San Fernando, California. Tasks associated with this project included sampling and analysis of soil and groundwater, evaluation of the analysis results, and preparation of a remedial action program.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Daniel Venchiarutti, R.G.	Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) Professional Level IV	Area of Expertise UST Compliance, Spill Prevention Planning, Stormwater Planning, and Site Characterization/Remediation.
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*) Project Geologist	Education MS, Geology, University of Iowa, 1987 BS, Biology/Geology, University of New York at Stony Brook, 1983

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
17	15	Registered Professional Geologist (Oregon, Idaho, Alaska, 1992) (Washington, 2002), American Institute of Professional Geologists (AIPG) Certification, 1995, Department of Ecology UST Site Assessment and Decommissioner's Supervisor Licenses, 1992

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	August 1990	present
2.	Pacific Environmental Services	June 1989	August 1990
3.	MolyCorp Inc. (Unocal Oil)	February 1989	January 1988
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Executive Summary of Career Highlights

Dan Venchiarutti has over 15 years of experience conducting underground tank surveys, closures, and associated environmental site assessments (including soil, sediment and groundwater investigations). He is a registered by the Washington Department of Ecology as a UST site assessor and decommissioner. He has managed and participated in numerous UST closures and site assessments throughout the Northwest, Canada, and the Asian Pacific Rim. His projects have ranged from small heating oil tank removals to extensive, multi-UST replacement projects at commercial, industrial and military facilities. He has also managed numerous UST tightness testing surveys, spill prevention (SPCC) plans, storm water management (SWPP) plans and participated in the design and implementation of site remediation systems at several UST sites. Selected project experience includes:

- Completed the environmental site assessments for a UST removal/replacement project during the upgrade of a large maintenance facility at the Cedar Hills Regional Landfill. Initially, a low-impact Strataprobe boring assessment was used to obtain site data to be incorporated into King County's construction specifications and bidding documents. The UST closure assessment included the collection of soil samples from eight USTs, ranging to 20,000-gallons in capacity. SCS also helped the County sample, characterize, and dispose of over 1,000 cubic yards of petroleum contaminated soil.

- Conducted site assessments for the decommissioning of 4 USTs at the University of Washington's marine research laboratory in Friday Harbor. The tanks were closed under WAC 173-360 requirements, and replaced with new double-walled, aboveground storage tanks. Several hundred cubic yards of contaminated soil were removed from the site.

Brief Resume Continued

- Completed all the environmental site assessments for a UST removal/replacement project during the upgrade of the University of Washington's main motor pool facility. Site information for the UW's construction specifications and bidding documents was initially obtained by conducting a low-impact Strataprobe boring assessment. A total of 9 USTs, ranging to 10,000-gallons, were subsequently decommissioned at the site. Approximately 700 cubic yards of petroleum contaminated soil were characterized prior to off-site disposal. SCS also installed four shallow monitoring wells at the site to monitor petroleum contaminated groundwater.

- Managed the site closure assessment for the decommissioning of a 500-gallon and 10,000-gallon diesel generator USTs at the Pacific County Courthouse in South Bend, Washington. The tanks were closed under WAC 173-360 requirements, and replaced with a new double-walled, aboveground storage tanks. Several hundred cubic yards of petroleum contaminated soil were removed from the site.

- Managed subsurface investigation to delineate soil and groundwater contamination associated with petroleum releases from a series of underground quench-oil USTs at a SRF facility at Yokosuka Naval Base, Japan. The site investigation included the installation of shallow soil borings and monitoring wells, both inside and outside the Navy's active work area. The investigation was completed under an expedited schedule that did not interrupt the facility operations.

- Site geologist for the decommissioning of several USTs, ranging in capacity up to 10,000 gallons for the closure of an abandoned fueling station at the Charles Street Maintenance Center. Conducted subsequent soil and groundwater investigations to determine the extent of subsurface petroleum contamination. Currently, assisting with implementing an in situ remediation system and monitoring program to track site clean-up.

- Managed the tightness testing at four UST facilities in a U.S. Navy ship repair facility located in Tokyo Bay. Both US EPA and PetroTight tests were performed during the tank survey. Assisted the client with the development of a comprehensive UST management program.

- Site geologist during the closure and subsequent biotreatment of over 5,000 cubic yards of petroleum hydrocarbon contaminated soil. Conducted soil and groundwater sampling throughout the treatment period and continued groundwater monitoring at the site after the remedial program was completed.

- Site geologist for the decommissioning of a 6,000-gallon heating oil UST at a commercial facility owned by Wachovia Bank, in Spokane Washington. Conducted post-closure groundwater sampling to evaluate related petroleum hydrocarbon groundwater contamination.

- Completed numerous underground storage tank removals and investigations at commercial, industrial, municipal, and military sites. Specific clients include: U.S. Navy, U.S. Army, U.S. Air Force, Waste Management, City of Seattle, Port of Tacoma and the WA National Guard.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Richard Karpinski	Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) Professional Level IV	Area of Expertise GW & Soil investigations/remediation system design, installation and O&M/ UST management
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*) Site Investigation and Remediation Manager	Education BS Mathematics w/concentrations in Chemistry & Physics Stockton College of New Jersey, 1989

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
16	16	OSHA Hazardous Waste Site Investigation Manager/Supervisor, 1990

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	1/17/2005	present
2.	Nightingale Geologic Consultants, P.C., North Carolina	6/2002	1/2005
3.	International Technology Corporation, various states	1/1999	4/2002
4.	Froehling & Robertson, Inc., Charlotte, North Carolina	7/1997	12/1998
5.	Handex of the Carolinas, Inc., Charlotte, North Carolina	4/1994	7/1997
6.	PARS Environmental Services, Inc. Hamilton Square, New Jersey	5/1990	3/1994
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Executive Summary of Career Highlights

Mr. Karpinski has provided project management and consulting for the closure of hundreds of aboveground and underground storage tank systems at residential, commercial, and industrial facilities. He has authored hundreds of Tank Closure and Phase II site investigation reports, and has technical experience in investigative activities (soil borings, direct-push drilling, test pit excavations, groundwater monitoring well installations, geophysical surveys), aquifer and chemical data interpretation and modeling, risk assessment, pilot testing, remedial/feasibility workplans, and regulatory reporting. He has experience with various state-funded cleanup programs. Examples of his project experience include:

- Provided project management and consulting for the closure of hundreds of aboveground and underground storage tank systems at residential, commercial, industrial, and government facilities. Performed or managed closure sampling (soil and groundwater) and reporting.
- Performed extensive site characterization activities at multiple source sites of an RMP (remanufactured motor parts) facility to assess nature, degree and extent of contamination of shallow overburden and deep aquifer. Principal constituents of concern included solvents (TCE, DCE, and PCE). Project included installation and testing of 15 test pits and a series of nested wells (shallow/deep), gamma logging all deep wells, two 72-hour deep aquifer pump tests, a series of step-down pump tests, and review of geophysical survey data.

Resume Continued

- Team leader for the environmental management of all retail petroleum stations and bulk fuel storage terminals for major oil company.
- Managed all environmental affairs of Williams mid-west oil refinery. This included free-product recovery system operation and maintenance as well as modifications and expansions of the system. The system achieved free-product plume control and minimization.
- Performed Phase II site investigations and site characterizations at scores of sites, including residential, commercial, and industrial facilities. Investigative activities have included soil borings, direct-push drilling, test pit excavations, groundwater monitoring well installations, geophysical surveys, aquifer and chemical data interpretation and modeling, risk assessment, pilot testing, and remedial feasibility and workplans.
- Project manager of all retail petroleum stations for major oil company. This included site investigation, reporting and management of site field operations.
- Project Manager Combined Phase I/Phase II Environmental Site Assessment of a former Service Station Property. The Phase II investigation included performance of numerous soil borings and installation of several groundwater monitoring wells using hollow-stem drilling methods. Subsurface soil and groundwater samples were collected to assess impacts from the historical petroleum handling at the site. Quarterly groundwater monitoring was conducted for approximately one year, at which time site development activities commenced. A No Further Action letter with the NCDEHNR UST Division was secured shortly thereafter.
- Atlanta, GA - Managed emergency field operations for the investigation and abatement of a fuel station system leak for a major airline company. The impacted area was the GA power tunnel located above the people mover at Hartsfield International Airport. Jet-A fuel was leaching into the tunnel via grouted holes which contained support rods used to hold the original cement form during construction. Initial abatement included using a petro-resistant plug in the holes to prevent further leaching. Ground-penetrating radar and laser surveys were conducted to determine potential locations of test wells and a vertical recovery well. Following data collection from the surveys and test well installations, a 180 foot vertical recovery well was designed and installed. Over 1,000 gallons of Jet-A was recovered in the first week of operation.
- Site Manager for the first pilot study and full-scale implementation of In-Situ Chemical Oxidation through the application of a sodium permanganate (NaMnO4) solution in North Carolina. Responsibilities included health & safety of all field personnel.
- Project Manager for the operations, maintenance and monitoring (OM&M) activities and reporting associated with three groundwater pump-and-treat recovery systems and two soil vapor extraction systems for DNAPL and LNAPL remediation of a former Superfund site. Performed multi-phase investigations and remedial actions, including design and installation of the groundwater treatment system at the source area and vapor recovery.
- Managed field operations, data acquisition and analysis and the design of a groundwater pump and treat system to clean up TCE, DCE, and PCE in shallow and deep aquifers.
- Project Manager for petroleum releases at retail petroleum stations. Tasks have included review of previous investigation and corrective action reports (by others); periodic well gauging for free product and groundwater levels; interim remedial efforts (manual bailing and vacuum truck extraction events); groundwater sampling and reporting; technical support and negotiations with neighboring parties; and development of updated corrective action plans. Additionally, implemented oxygen release compounds (ORC) to bring low-level BTEX contaminated sites into regulatory compliance and closure.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Brad S. Anderer	Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) Professional Level III or IV	Area of Expertise LUST Site Investigation, Air Quality Permitting, Regulatory Liaison
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*) Site Investigation and Permitting Professional	Education B.S. Biology, Illinois State University, 1990

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
13	13	ABIH Certified Microbial Remediation Supervisor, 2002-present OSHA Hazardous Waste Site Investigation Manager/Supervisor, 1992-present AHERA Certified Asbestos Building Inspector/Mgt. Planner, 1990-present

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	September 1996	Present
2.	TRC Environmental Corporation	August 1992	June 1996
3.	GES, Inc.	July 1990	August 1992
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Executive Summary of Career Highlights

Mr. Anderer's expertise has included managing and performing environmental investigations at various types of commercial and industrial properties that involved excavation and disposal of underground features, oversight of drilling activities, soil and groundwater sample collection, and remediation of soil and groundwater. His overall experience includes performing or managing over 250 soil borings and collecting over 3,000 soil/groundwater samples throughout the midwestern and southwestern states. Project duties include preparation/review of work plans, regulatory liaison, oversight of subcontractors, budgeting, and reporting.

The following is a partial listing of representative projects:

- Managed and performed an investigation of the extent of soil and groundwater contamination associated with three petroleum releases from underground storage tanks and associated piping at a municipal vehicle service center in Mesa, Arizona. Performed installation of nine monitoring wells to depths of 200 feet or more at locations within and outside the contaminated plume. Some of these wells will be used in a pilot study to determine whether they are viable extraction wells for a soil vapor extraction and air sparge system. Other activities include quarterly groundwater monitoring since 1995 and completion of applications for the State Assurance Fund.

- Managed and performed removal of five USTs from a tank farm at Falcon Field Airport which formerly contained jet fuel, and a variety of aviation and automotive gasolines. Removal activities included the coordination with ADEQ, Mesa Fire Department, and Falcon Field Operations and Communications departments. Based on the results of the closure sampling, characterization and remediation activities were warranted at three separate release points. These activities included exploratory drilling and collection and analysis of characterization samples at depths that exceeded 100 feet below ground surface.

Brief Resume Continued

- Managed and performed a subsurface investigation of a former UST location at a parcel that was formerly a truck marshaling lot. Although the UST and a limited quantity of soil had been previously excavated, odors were detected during excavation activities performed in association with a construction project. Impacted soils were excavated and closure samples were collected.

- Managed assessment and remedial projects associated with the redevelopment of industrial areas for Maricopa County's Criminal Justice Facilities Development Department. Historical occupants of the redeveloped areas included a railroad freight depot, a bakery, a milk and ice cream processing plant, and various commercial properties. Phase I investigations included historical research to the mid-1800s; archaeological and architectural evaluations; and, regulatory research and liaison. Phase II investigations included extensive asbestos inspections and environmental and archaeological trenching and testing. Remediation activities included asbestos abatement oversight; abandonment of a groundwater production wells; soil removal; and separator/sump investigations and removal. Project management involved emergency response to construction issues, extensive client and tenant liaison, and coordination of schedules and activities with subcontractors and other contractors, and attendance and presentations at public/regulatory meetings.

- Managed characterization project associated with a proposed light rail project (People Mover) which connects railways in Tempe, Arizona with the Sky Harbor International Airport. Tasks included characterization and management of investigative-derived waste (IDW) and monitoring of groundwater wells. Coordinated the placement, movement, and disposal of soil and groundwater generated by drilling activities that occurred within high-traffic and restricted areas at Sky Harbor International Airport. Following installation of the wells, pressure transducers were installed to monitor long-term changes in groundwater elevation along and in the vicinity of the proposed alignment.

- Managed and completed removal and characterization heating oil and petroleum fuel underground storage tanks discovered during grading and excavation activities performed for several downtown Phoenix redevelopment sites for Maricopa County's Criminal Justice Facilities Development Department. On-call services included removal and disposal of underground storage tanks, soil sampling and other closure procedures, waste characterization, and field screening.

- Performed site investigation and closure for several five former and current underground storage tank farms for Maricopa County Facilities Management Department.

- Managed and completed removal and characterization of oil/water separators, septic systems, injection wells, and underground storage tanks at the Arizona Air National Guard facility at Sky Harbor International Airport. Included daily and weekly coordination and contact the Arizona Department of Environmental Quality Solid Waste and Federal Facilities Unit, the Air National Guard, the City of Phoenix, and subcontractors involved with remedial activities and construction of the Third Runway. Geophysical investigations, waste characterization, removal of underground and aboveground features, soil sampling, and field screening were some of the daily field activities performed and managed.

- Managed and performed characterization of a former fueling operation in Sunflower, Arizona. Project activities included installation and sampling of soil borings and groundwater wells to evaluate the potential presence of contamination and preparation of an initial site characterization report. Scheduled activities include installation of additional monitoring wells for additional groundwater characterization.

- Performed or reviewed over ninety RCRA Compliance Evaluation Inspections of Treatment, Storage, and Disposal Facilities for EPA Region II. The inspections involved the evaluation of facility compliance with applicable RCRA waste management and record keeping rules and evaluation and documentation of facility compliance with applicable TSCA, SARA, and OSHA requirements.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Jose Luis Davila	Project Engineer
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) Professional Level III or IV	Area of Expertise Remediation and closure design, AutoCAD, GPS/GIS
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*) Project Engineer	Education M.S. Mechanical Engineering with Emphasis in Environmental Engineering, California State University Northridge, 1997

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
10	8	E.I.T. (1997); HAZWOPER (current)

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	May 2001	Present
2.	CABACO Inc. (Air Force Plant 42)	July 2000	May 2001
3.	SCS Engineers	Feb 1999	July 2000
4.	Texas Natural Resource Conservation Commission	Aug 1997	Feb 1999
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Executive Summary of Career Highlights

Mr. Davila's experience as a project engineer includes design tasks for environmental remediation systems; air quality permitting; Stormwater Pollution Prevention and Spill Prevention Control and Countermeasures Plans preparation, review, and training; registration of drywells under the Aquifer Protection Permit for several facilities in Arizona; and construction quality assurance (CQA) for final closure of a landfill in Arizona.

Mr. Davila has also participated in engineering design projects such as landfill design construction and specification; landfill gas collection and control systems design; and design of environmental remediation systems. He is experienced on the used of a Global Positioning System (GPS). He has used GPS to track locations for groundwater, landfill gas, surface and emissions monitoring projects as a data management tool, as well as for surveying purposes.

As an Engineer/Environmental Manager for U.S. Government Air Force Plant 42, duties involved Maintenance Engineering, Permitting, Emissions Inventory, and storm water reports; hazardous waste management; preparation of pollution prevention, waste minimization, health and safety, and spill prevention Plans; health and safety management; airfield and road pavement inspections; identification of Projects to improve the Plant functionality; and preparation of budgets for future projects.

Brief Resume Continued

The following is a partial list of representative projects:

- Participated in the design and permitting for a dual-phase Vacuum-Enhanced Liquid Phase Hydrocarbon Recovery system for a fuel UST release at the Price Service Center in Tucson, Arizona. Prepared construction drawings, specifications, and bid documents for soil vapor extraction and total fluids recovery system to treat petroleum-impacted soils and groundwater. The treatment system includes 19 soil vapor extraction wells, a total-fluids extraction well, a thermal oxidizer for vapor phase treatment, and granular activated carbon for groundwater treatment.
- Performed geophysical surveys of suspected UST locations using EM-31 technology.
- Participated in design of a landfill soil vapor extraction and air injection remediation system for the City of Tucson Los Reales Landfill.
- As Project Engineer, participated in the design of the Salt River Pima-Maricopa Indian Community Bioreactor Landfill.
- Project Engineer for adaptation of and EPA model to conditions in Mexico. Visited 5 landfills and performed site evaluations and soil vapor field testing.
- Prepared Aquifer Protection Permit applications for drywells located at the Paradise Waste Services facility in Phoenix, AZ.
- Participated in the Sunrise Mountain Landfill environmental investigation, including data management, GPS surveying and data processing, landfill gas surface monitoring, soil sampling, geotechnical sampling and logging, and waste sampling.
- Performed Phase I and Phase II Environmental Site Assessments for several clients in Texas.
- Performed review and preparation of Stormwater Pollution and Control and Spill Prevention Control and Countermeasures Plans for several solid waste management facilities throughout Arizona.
- Project Engineer for Town of Patagonia Landfill Phase 2 design plans and specifications.
- Performed landfill gas utilization feasibility studies for five landfills in several South American countries.
- Project Engineer for the soil cover assessment of the proposed Rio Salado Golf Course. Prepared plans and specifications, and performed field investigation including soil and waste sampling and soil vapor monitoring.
- Performed landfill gas investigation and final grading plans and specifications for the Old Las Cruces Landfill, Las Cruces, New Mexico.
- Performed Construction Quality Control monitoring for construction of the final cover system at the City of Winslow landfill.
- Participated in a landfill gas and characterization project for the City of Albuquerque that included the study of 7 closed landfills throughout the city. Included soil vapor pilot testing and monitoring.
- Participated in the design and construction specifications of Cell 2B and 4A for Apache Junction Landfill.
- Participated in several projects related to air compliance for Waste Management and other client in Texas. Included air compliance reports, NSPS compliance guidelines, Tier 2 landfill gas analysis reports, Title V permits, NSR permits, and emissions inventories.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Brian Gould	Staff Geologist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
Professional Level III	Geological studies, drilling, O&M
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*)	Education
Staff Geologist	B.S. - Washington State University, 1999, Geology B.A. - Washington State University, 1999, Anthropology

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
6	4	

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	2004	Present
2.	Kleinfelder, Inc.	2002	2004
3.	Immunex/Amgen	2000	2002
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Executive Summary of Career Highlights

Mr. Gould provides experience in environmental investigation and assessment, with primary responsibilities in drilling and sampling of environmental and geotechnical soil borings, groundwater monitoring, sampling, remediation system construction and operation, and reporting.

The following is a partial listing of representative projects:

- Supervised installation of a groundwater monitoring well in an ecologically sensitive riparian area near Sycamore Creek, Sunflower, Arizona. Well was installed in a fractured bedrock aquifer to evaluate the extent of a petroleum release from an underground storage tank system. Also performing groundwater monitoring and free product recovery.
- Performed operation and maintenance activities for a soil vapor extraction systems at gasoline service stations.
- Provided oversight and closure sampling services for removal of underground fuel storage tanks at a vehicle maintenance facility.
- Performed construction of soil venting/vapor extraction system for remediation of petroleum-containing at asphalt processing facilities.
- Performed groundwater monitoring, collection of samples, and periodic reporting for gasoline service station facilities throughout Arizona.
- Performed direct-push soil sampling investigation to evaluate a dispenser release at a University of Arizona agricultural facility.

Brief Resume Continued

- Performed construction of soil vapor extraction/soil venting system at a sand and gravel processing plant in Phoenix, Arizona. Currently performing operation and maintenance of system.

- Performed Phase II investigation and remediation of a former asphalt hot plant and construction yard in Deer Valley, Arizona. Included geophysical surveys to identify buried tanks, exploratory excavation, mapping with GPS, and report preparation. Investigation identified buried deposits of asphalt and burner oil, apparently associated with former disposal areas. Performed waste characterization, excavation oversight, verification sampling, and mapping of remediation areas.

- Supervised and directed excavation of petroleum-containing soil from a former vehicle wash rack at an aviation hangar at Sky Harbor International Airport, Phoenix, Arizona. Also performed exploratory excavation to evaluate potential impacts from other wash racks, floor drains, sumps, and fuel storage tank locations. Performed closure sampling and project documentation.

- Supervised installation of six multi-zone soil vapor probes in the Cave Creek Landfill in Cave Creek, Arizona. Probes were drilled to depths of 90 and 140 feet through landfilled areas to evaluate the potential presence of volatile organic compounds beneath the landfill. Purged and sampled these probes and 12 additional shallow perimeter probes.

- Performed settling chamber sampling for permitting of nine drywells located at an airbag actuator manufacturing facility in Mesa, Arizona. Evaluated chemical use and waste generation to develop sampling methodology. Prepared documentation for Aquifer Protection Permit applications for each drywell.

- Performed a Phase I ESA for approximately 500 acres of land situated within 16 parcels located along the east side of the Agua Fria River in Avondale, Arizona. The investigation included sand and gravel quarry operations, a concrete batch plant with a leaking underground storage tank system, vacant land, unimproved native desert land located along and within the Agua Fria River channel, and pasture.

- Performed groundwater monitoring activities for wells along the proposed Arizona People Mover system at Sky Harbor International Airport, Phoenix, Arizona.

- Performed oversight for abandonment of monitoring and irrigation wells.

- Performed four Phase I Environmental Site Assessments (ESAs) of 21 right-of-way acquisitions for the City of Phoenix Light Rail Transit Project. The investigations included former service stations, vacant land, and commercial businesses located along Central Avenue, north of downtown Phoenix, Arizona.

- Performed Phase II investigation of agricultural property in the Tres Rios project area, Phoenix, Arizona. Areas of suspected buried waste were investigated by exploratory excavation, and encountered animal slaughtering wastes.

- Performed installation of groundwater wells, including collection and logging of soil samples, installation of well materials, and monitoring compliance with project specifications.

- Performed sampling of drywells at gasoline service stations throughout Arizona. Prepared drywell registration forms and Type 2.04 permits.

- Performed oversight, documentation, mapping, and closure sampling for removal of a solid waste landfill encountered during widening of Riggs Road in Chandler, Arizona. Removed materials included tires, ash, metal debris, and household wastes.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Keith L. Etchells, P.G.	Staff Geologist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) Professional Level III	Area of Expertise Subsurface Assessment, Risk Assessment, Remediation Design Support
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*) Staff Geologist	Education B.S., Environmental Geology, Colorado State University, 1999

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
6	6	2005, CA, Professional Geologist (# 8028) OSHA Site Supervisor 40-hour OSHA Hazwoper (current)

Employment History

	Firms Name	Start Date	End Date
1.	Langan Engineering and Environmental Services	2000	2/2002
2.	SCS Engineers	3/2002	present
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Executive Summary of Career Highlights

- Executed subsurface environmental assessment and mitigation of six hydraulic lift vaults and ten underground storage tanks. Responsible for geologic characterization, analytical and geotechnical data collection, and construction design during the installation of monitoring well network. Completed site assessment and human health risk assessment reports. Analyzed collected geologic and hydrogeologic data to produce geologic and hydrogeologic interpretations and conclusions, isoconcentration maps, and groundwater contour maps.

- Executed a subsurface characterization at an operating automobile dealership with soil and groundwater impacts caused from former leaking underground storage tanks. Managed and executed a quarterly groundwater monitoring and sampling program. Analyzed collected geologic and hydrogeologic data to produce geologic and hydrogeologic interpretations and conclusions, a site conceptual model, isoconcentration maps, plume diagrams, hydrographs, and groundwater contour maps.

Brief Resume Continued

- Responsible for soil characterization, analytical data collection design and execution, and location and construction design of a monitoring well network for a groundwater monitoring and sampling program. Managed and executed a quarterly groundwater monitoring and sampling program. Analyzed collected geologic and hydrogeologic data to produce geologic and hydrogeologic interpretations and conclusions, a site conceptual model, isoconcentration maps, plume diagrams, and groundwater contour maps.

- Completed an evaluation of hydrogeologic data collected from completed subsurface assessments of an unlined landfill to evaluate data requirements for the completion of a public health risk assessment. Responsible for geologic characterization, analytical data collection, and construction design during the installation of additional monitoring wells to augment an existing monitoring well network. Completed a tidal influence study utilizing groundwater quality stratification measurements and pressure transducer survey to evaluate the characteristics of the groundwater regime and properly design a groundwater monitoring and sampling program. Coordinated and executed a groundwater monitoring and sampling program.

- Responsible for designing analytical, geotechnical, and hydrogeological data collection programs in order to complete subsurface environmental and human health risk assessments associated with various operating dry cleaning facilities.

- Managed operation and management activities for a pump and treat remediation and plume containment system at a site with a fractured bedrock groundwater regime. Managed the completion of a down-hole geophysical survey and groundwater elevation study of an open borehole monitoring well network. Coordinated and executed quarterly groundwater monitoring program. Participated in redesigning a groundwater remediation system. Responsible for rock and soil characterization to install additional monitoring wells to augment an existing monitoring well network.

- Conducted and oversaw geologic characterization during exploratory drilling and well installation for a subsurface environmental investigation. Coordinated quarterly groundwater monitoring program at a tidally influenced operating petroleum refinery. Participated in designing and implementing a groundwater and free phase liquid capture system. Conducted monitoring and extraction well pump tests to obtain subsurface groundwater flow characteristics in a remedial system design. I was required to utilize rock, soil, and hydrogeologic data to produce graphical interpretations and depictions including geologic cross sections, fence diagrams, isopach maps, isoconcentration maps, plume diagrams, hydrographs, and groundwater contour maps.

- Completed a karst hazard study using geologic map and site specific geologic data reference research, field reconnaissance including exploratory excavation and cone penetrometer survey.

- Completed a geologic characterization of fractured bedrock utilizing oriented core collection in order to evaluate geotechnical and hydrogeologic characteristics of bedrock. Completed groundwater monitoring events and utilized collected geologic and hydrogeologic data to produce geologic cross sections, isoconcentration maps, plume diagrams, and groundwater contour maps.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
David O'Leary, P.G.	Staff Geologist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) Professional Level III	Area of Expertise UST Assessment, Risk Assessment, Remediation Design Support
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*) Staff Geologist	Education B.S., Environmental Geology, Colorado State University, 1999

Years of Experience:	Years of Related Experience:	Registrations and Certifications Held and Year Received
11	5	2005, CA, Professional Geologist 40-hour OSHA Hazwoper (current)

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	Oct 2002	present
2.	Wright Water Engineers	Apr 1996	Apr 2002
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Executive Summary of Career Highlights

Mr. O'Leary's expertise includes environmental Phase I and II site assessment and remediation, geologic hazard assessment, drill rig operation management, well and piezometer construction, development installation, monitoring and maintenance, soil mapping and categorization, AutoCAD drafting, and water quality collection and monitoring. His undergraduate course work covers a wide range of topics, from civil engineering to environmental ethics, including statistics, physics, geographic information systems (GIS), and geochemistry. His current responsibilities involve activities pertaining to environmental investigation through mitigation/remedial action, including project management, geological logging of boreholes, wells, and excavations, oversight of sample collection, regulatory agency liaison, risk assessment modeling, workplan preparation, preparation of a variety of geologic and hydrogeologic cross-sections and maps, and preparation of reports. Representative projects include:

- Oversight of assessment activities at a former airport underground storage tank (UST) field where soil and groundwater have been impacted by petroleum hydrocarbons and fuel oxygenates. Activities include oversight of sampling of monitoring wells, interpretation of laboratory data, and preparation of a Site Conceptual Model (SCM) summarizing environmental conditions at the site. The preparation of the SCM included identification of sources of contamination, identification of the dominant fate and transport characteristics of the site, review, interpretation, and synthesis of extensive historical boring logs, well logs, and soil and groundwater analytical data, delineation of soil and groundwater contamination, preparation and interpretation of groundwater contour maps and geologic cross sections, identification of potential receptors impacted by release from USTs, exposure pathway analysis, and preparation of workplan.

Brief Resume Continued

- Oversight of assessment and mitigation activities at a site with shallow groundwater overlying shallow granitic bedrock. Soil and groundwater are contaminated with petroleum hydrocarbons and fuel oxygenates (particularly MTBE). Activities include:

    - Oversight of interim remedial action, which consisted of removal of impacted groundwater and phase separated hydrocarbons from site wells.

    - Construction of temporary monitoring wells, collection of grab groundwater samples, and interpretation of real-time laboratory data for subsequent well design and placement.

    - Monitoring well design, drilling, logging, and installation.

    - Supervision of groundwater sampling, interpretation of laboratory data, preparation of groundwater level and chemical plume contour maps, and preparation of quarterly monitoring reports.

    - The design and implementation of slug tests on wells including the interpretation of slug test data using computer programming (AQTESOLV) of the Bouwer and Rice method, and subsequent modeling of aquifer characteristics.

    - Coordination with, and advisement of, local government agencies regarding proposed road widening in the vicinity of impacted soil and groundwater.

    - Design and coordination for installation of groundwater extraction and treatment system (granular activated carbon) including design of sampling program as required by water quality control board discharge permit.

- Oversight of mitigation of lead-impacted soil (burn ash) at numerous properties in downtown San Diego. Activities included excavation and logging of trenches, excavation of undulating layers of lead-impacted soil utilizing x-ray fluorescence to screen suspect soils, and preparation of property closure reports.

- Design, oversight, and implementation of soil and soil vapor sampling program at a former aerospace manufacturing facility. Soils and soil vapor at the site were impacted by chlorinated solvents including TCE and PCE. Activities included three separate phases of drilling, logging, and sampling soil and soil vapor borings, the preparation and interpretation of soil vapor risk assessment model based on laboratory results, and the evaluation of carcinogenic and non-carcinogenic risks to site workers.

- Management and oversight of assessment activities at a site with shallow groundwater overlying shallow fractured granitic bedrock. Soil and groundwater are contaminated with petroleum hydrocarbons and fuel oxygenates. Activities include monitoring well design drilling, logging, and installation, supervision of groundwater sampling utilizing low-flow technology, interpretation of laboratory data and groundwater analytical data, including the analysis of the interaction between the deeper fractured bedrock aquifer and the shallower saturated aquifer, and preparation of monitoring reports.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Jerrett Domling	Staff Scientist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
Professional Level III	UST Assessment, Closure
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*)	Education
Staff Professional	A.S. Environmental Management, SCC-Beatrice, Nebraska, 1995 B.S. Water Science, University of Nebraska-Lincoln, 2000

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
11	9	

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	7/2003	Present
2.	Geotechnical Services, Inc.	1/1994	7/2003
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Executive Summary of Career Highlights

Mr. Domling's environmental projects include Phase I/II Environmental Site Assessments, Tier I Investigations, Underground Storage Tank Closure Assessments, Building Demolition Assessments, and soil and groundwater remediation projects. His responsibilities have included coordinating field contract drilling activities, evaluating site geological and analytical data, supervising sampling and analysis activities, site monitoring activities, and reporting. The following is a partial listing of representative projects:

- Design and installation of a dual- phase soil and groundwater remediation system. The system included 21 extraction wells connected to a pump and treat system by over 2,000 feet of recovery piping.
- Performed numerous Phase I/II Environmental Site Assessments and Tier 1 Assessments. The assessments ranged from single undeveloped tracts of land for individual investors to multiple commercial and industrial facilities for national clients.
- Conducted numerous underground storage tank closure assessments with tank volumes ranging from 350 to 10,000 gallons. Field screening of excavated soils was conducted and sampling of soils, groundwater, and sludge was completed for characterization.
- Presently performing a Tier 1 Investigation of petroleum hydrocarbons associated with the former underground storage tank (UST) in Federal buildings in Nebraska. Project activities include performing soil sampling, groundwater monitoring well installation, sampling, and data collection and review.
- Provided Project Management for the installation of a dual phase product/dissolved phase remediation system at White Star Oil in Albion, Nebraska. Provided engineering review of the design, remedial equipment purchase, installation, and O & M and sampling associated with system operation.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Allyson Teramoto	Staff Scientist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
Professional Level III	Human Health Risk Assessment, Tier II
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, ect.*)	Education
Staff Professional, Risk Assessor	M.S., Environmental Management, 2004

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
4	4	

Employment History

	Firms Name	Start Date	End Date
1.	SCS Engineers	9/2003	Present
2.	Blasland, Bouck, & Lee, Inc. (BBL, Inc.)	10/2000	07/2002
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Executive Summary of Career Highlights

Allyson Teramoto has approximately 4 years of experience in environmental consulting and preparation of human health risk assessments. She has performed and assisted in routine aspects of human health risk assessment, site characterization, and other environmental science projects, including baseline risk assessments, exposure modeling to predict exposure point chemical concentrations, development of site-specific action or clean-up levels for soil, groundwater, and soil gas, multi-pathway exposure assessments, and toxicological assessments. Her duties have included performing risk-assessment calculations using spreadsheet tools and other modeling software, analyzing and interpreting environmental chemistry data, statistical analysis of data, database management and report writing. She has assisted in evaluating the nature and extent of contamination at hazardous waste sites; evaluating the fate and transport of chemicals in the environment, and preparing reports to document the site investigation process.

Recent Selected Project Experience:

- Prepared a human health risk assessment using soil and soil gas data to evaluate potential risks to current and future receptors including construction workers, hospital patients and hospital workers in support of an environmental impact report and a removal action plan. Site-specific clean-up levels for soil and soil vapor were determined. The HRA has since been reviewed and approved by the California Environmental Protection Agency Department of Toxic Substances Control (DTSC).

Brief Resume Continued

- Assisted in the preparation of an HRA for an 11-acre future housing site on a former petroleum storage facility in Torrance, California. Site contaminants at the site include petroleum-related contaminants such as petroleum hydrocarbons, benzene, toluene, ethylbenzene, xylenes, and lead. Tasks included performing risk calculations and performing statistical analysis of soil and soil vapor data to determine exposure point concentrations and chemicals of potential concern. The HRA evaluated exposures to adult and child residential receptors and a hypothetical construction worker. In addition, the vapor intrusion exposure pathway for the adult and child receptors was evaluated using the Johnson and Ettinger Vapor Intrusion Model.

- An indoor air risk assessment was prepared using the Johnson and Ettinger Vapor Intrusion Model to determine risks to commercial workers at a future dance theatre. The site was formerly an ambulance dispatch center that also was used for automotive repairs.

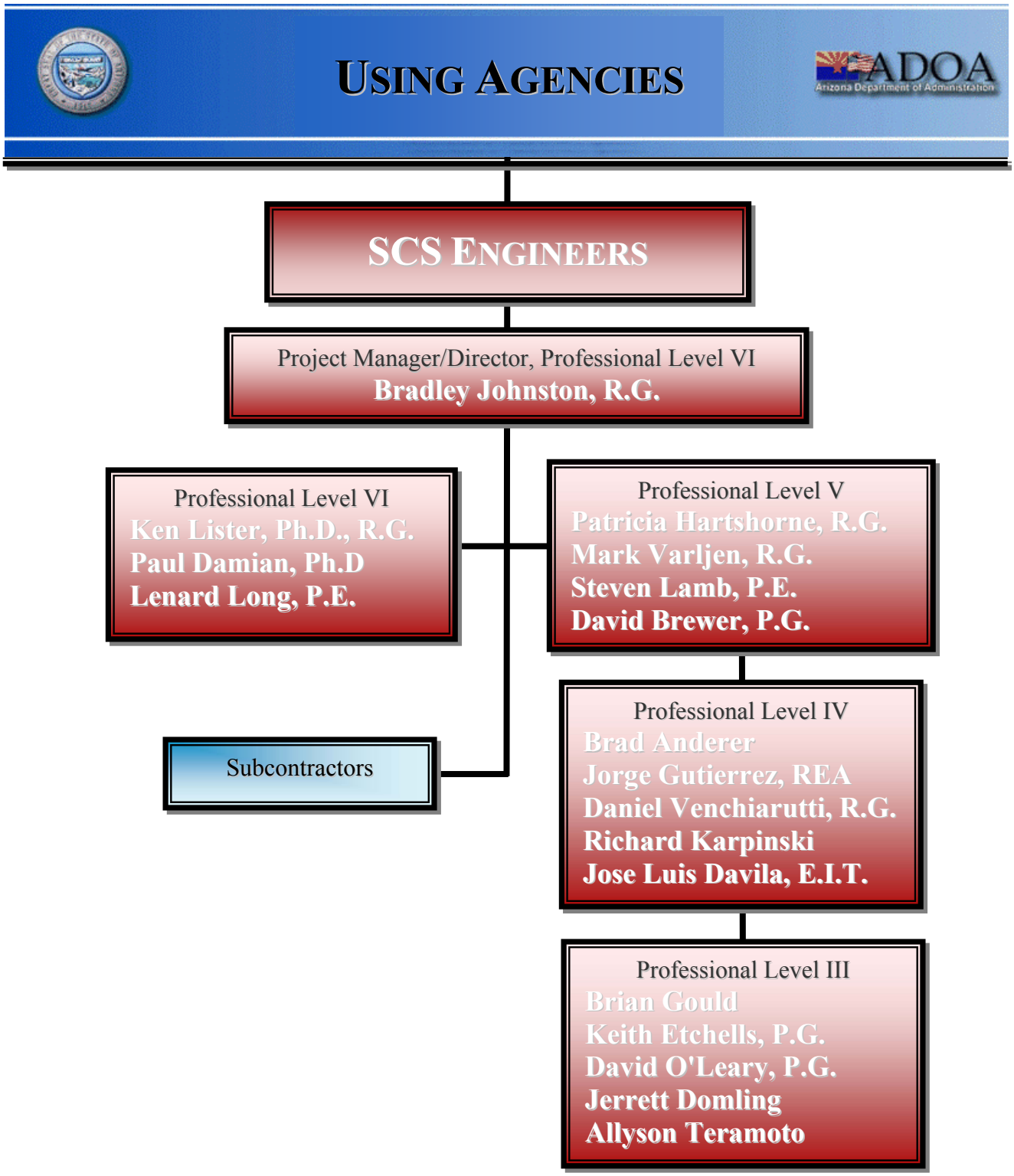
- Prepared HRA in support of a Resource Conservation and Recovery Act (RCRA) facility investigation to evaluate potential health risks to current and future on-site and off-site receptors including construction workers, commercial workers, and residents at the facility which was involved in the aerospace, automotive, construction, electronics, electrical power, process and telecommunication industries. In addition, air dispersion modeling was conducted using USEPA's SCREEN3 to determine potential concentrations of contaminants off-site commercial workers and residents would be exposed to.

- Assisted in the preparation of an air toxics human health risk assessment to determine risks from landfill gas to potential residents adjacent to an active landfill. Air dispersion modeling was performed to determine the worst-case location of the residential receptors and calculate risks.

- For a closed landfill site, performed human health risk assessment calculations to evaluate potential impacts of hazardous substances including semi-volatile organic compounds (SVOCs), polynuclear aromatic hydrocarbons (PAHs) and metals known to occur at the site to construction workers, commercial workers, recreational and transient receptors. Indoor air risks for commercial workers were also quantified using the Johnson and Ettinger Vapor Intrusion Model.

- For a former precision metal stamping facility, prepared a focused health risk assessment to evaluate potential human health risks to future site workers attributable to volatile organic compounds (VOCs) present in soil beneath the site.

15. Provide an organizational chart showing the staffing and lines of authority for the key persons to be used under this contract.



16. Complete the Pricing Schedule in its entirety.

Support Services	Minimum Responsibilities, Qualifications and Education	Base Hourly Rate
Support Level I (Word Processor)	Responsibilities: Clerical, word processing, filing, general administration. Qualifications: Entry level, no experience restriction. Education: No education restriction.	**$ 40. 00**
Support Level II (Admin Assistant)	Responsibilities: Drafting, project manager's assistant, graphics. Qualifications: 1 - 2 years experience. Education: No education restriction.	**$ 47. 00**
Support Level III (Technical)	Responsibilities: Drafting supervisor, administrator supervisor, Senior Word Processor. Qualifications: 2 - 4 years experience. Education: No education restriction.	**$ 60. 00**
Field Services	**Minimum Responsibilities, Qualifications and Education**	**Base Hourly Rate**
Field Services Level I	Responsibilities: Closely supervised; conducts routine heavy labor during equipment installations; sampling/gauging, equipment maintenance. Qualifications: Entry level, 1 - 2 years of experience. Education: No education restriction.	**$ 35. 00**
Field Services Level II	Responsibilities: Limited supervision; occasional heavy labor; sampling/gauging, equipment installations, operations, troubleshooting. Qualifications: 2 - 4 years of experience. Education: No education restriction.	**$ 40. 00**
Field Services Level III	Responsibilities: Supervises on-site tasks such as system installations and operations, trouble shooting; technical advisor. Qualifications: 5 - 7 years of experience. Education: No education restriction.	**$ 50. 00**
Field Services Staff (Field)	Responsibilities: Limited supervision; experience specific to Scope of Work, independent field work and/or specialist. Qualifications: 7 - 9 years experience/special knowledge or expertise in field. Education: No education restriction.	**$ 65. 00**
Field Services Manager	Responsibilities: Overall supervision of field services staff; works with Project Managers on scheduling and coordination. Qualifications: 7 - 9 years of experience. Education: Bachelor of Science (BS) degree in applicable field of study or 15 plus years experience.	**$ 65. 00**
Professional Personnel *	**Minimum Responsibilities, Qualifications and Education**	**Base Hourly Rate**
Professional Level I	Responsibilities: Close supervision, routine tasks associated with environmental projects. Qualifications: 1 - 2 years of experience. Education: Bachelor of Science (BS) degree.	**$ 60. 00**
Professional Level II	Responsibilities: Collects and interprets data, report writing, provides project input. Qualifications: 2 - 4 years of experience Education: Bachelor of Science (BS) degree.	**$ 75. 00**
Professional Level III (Staff)	Responsibilities: Limited supervision, independent fieldwork, oversees Professional Levels I and II. Qualifications No. 1: 4 - 6 years of experience with Bachelor of Science (BS) degree. Qualifications No. 2: 1-2 years of experience with Masters degree.	**$ 80. 00**
Professional Level IV (Project)	Responsibilities: Manages projects of moderate scope, prepares cost estimates, supervises others. Qualifications No. 1: 6 - 8 years experience with Bachelor of Science (BS) degree or registration (PE or RG). Qualifications No. 2: 3 - 4 years of experience with Masters degree.	**$ 95. 00**
Professional Level V (Senior)	Responsibilities: Senior technical leader for environmental projects, QA of Project Plans, report review. Qualifications: 8 or more years of experience. Education: Advanced degree in field or registration (PE or RG). ***** Must meet both the experience & education requirements *****	**$ 110. 00**
Professional Level VI (Principle)	Responsibilities: Recognized registered professional, resident expert, expert testimony, QA of Project Plans and report review and/or Oversees and coordinates all levels of personnel, senior technical leader and has signature authority. Qualifications No. 1: 5 or more years in field project formulation, survey, excavation and technical reporting experience. Education No. 1: Doctorate degree and registration as PE or RG or Doctorate degree in Risk Assessment or Toxicology . Qualifications No. 2: 12 or more years of experience. Education No. 2: Advanced degree in field and registration as PE or RG or Advanced degree in Risk Assessment or Toxicology. Qualifications No. 3: 20 or more years in field project formulation, survey, excavation and technical reporting experience. Education No. 3: Bachelor of Science (BS) degree in applicable field of study. ***** Must meet both the experience & education requirements *****	**$ 140. 00**
*	There will be multiple technical disciplines that will fall under the descriptions of each professional level. A geologist, engineer, public involvement specialist, or environmental scientist with one year environmental experience would each fall under a Professional Level I.	
	Aggregate Hourly Rate Total:	**$ 962. 00**

*** Rates are maximum, and may be decreased for specific Task Assignments**

17. Complete the Rental Equipment Pricing Schedule in its entirety.

Equipment Name	Price Per Day	Price Per Week	Price Per month
Air Sparge Compressor ≤ 15psi	$ 220. 00	$ 550. 00	$ 1025. 00
Air Sparge Compressor ≥ 15psi	$ 330. 00	$ 650. 00	$ 1295. 00
Bladder Pump	$ 100. 00	$ 275. 00	$ 800. 00
Centrifugal Pump	$ 30. 00	$ 90. 00	$ 270. 00
Combustible Gas Indicator (CGI)	$ 75. 00	$ 225. 00	$ 500. 00
Depth Specific Sampler	$ 25. 00	$ 75. 00	$ 225. 00
Disposable Bailer (each)	$ 6. 00		
Dissolved Oxygen Meter (downhole, with 100'cable)	$ 45. 00	$ 100. 00	$ 300. 00
Electric Catalytic Oxidizer ≤ 250cfm	$ 440. 00	$ 1100. 00	$ 3850. 00
Flame Ionization Detector (FID)	$ 95. 00	$ 250. 00	$ 700. 00
Flow Through Cell (with DO, pH, cond, temp meter)	$ 110. 00	$ 330. 00	$ 900. 00
Generator ≤ 6kw	$ 80. 00	$ 240. 00	$ 700. 00
Hand Auger w/Slide Hammer Sampler	$ 40. 00	$ 160. 00	$ 450. 00
Interface Probe – Oil/Water	$60. 00	$ 180. 00	$ 500. 00
Lower Explosive Limit/Oxygen Meter (LEL/O2)	$ 60. 00	$ 180. 00	$500. 00
Peristaltic Pump	$ 35. 00	$ 100. 00	$ 300. 00
Photoionization Detector (PID)	$ 75. 00	$ 200. 00	$ 675. 00
pH Temperature and Conductivity Meter	$ 35. 00	$ 75. 00	$ 200. 00
Portable Flow Meter - Water	$ 15. 00	$ 50. 00	$ 145. 00
Portable Pilot Test Unit (includes trailer, anemometer, blower/compressor, vacuum/pressure gauges, pitot tubes, generator, miscellaneous fittings, power cords and plugs.			
AS Pilot Test Unit	$ 660. 00	$ 990. 00	$ 1350. 00
SVE Pilot Test Unit	$ 660. 00	$ 990. 00	$ 1350. 00
Pressure Transducer, Cable and Data Logger	$ 75. 00	$ 250. 00	$ 500. 00
Submersible Pump w/Controller (includes new hose)	$ 150. 00	$350. 00	$ 795. 00
Thermal/Catalytic Oxidizer 250cfm	$ 440. 00	$ 1100. 00	$ 3850. 00
Thermal/Catalytic Oxidizer 500 cfm	$ 550. 00	$ 1300. 00	$ 4950. 00
Vehicle	$ 60. 00	$ 300. 00	$ 900. 00
Water Level Indicator	$ 40. 00	$ 120. 00	$ 300. 00

18. Use this space to provide any additional information or description of resources (including any computer design capabilities) supporting your firm's qualifications for the proposed contract.

SCS is a national employee-owned environmental services firm specializing in the investigation, remediation, and management of hazardous and solid wastes. SCS was founded in 1970 with a vision of providing practical engineering and scientific expertise to manage these types of wastes. SCS has been providing underground storage tank services from our Phoenix and Tucson, Arizona offices since 1987. Since that time, we have performed hundreds of UST-related projects, including compliance audits, tank closures, tank upgrades and replacements, site characterization, remediation design and construction, and litigation support. This experience has provided the proposed project with a thorough knowledge of Arizona guidelines, policies, and rules related to underground storage tank compliance, closure, assessment, and remediation.

Since 1993, SCS has been providing UST services to the State of Arizona under the A7 contract and the preceding A3 contract. During that time, SCS has completed UST-related projects for the Arizona State Land Department, Arizona Department of Administration - Risk Management, Arizona Department of Transportation, Arizona State School Facilities Board, Arizona State Parks, Arizona Department of Emergency and Military Affairs, and Arizona Department of Environmental Quality. SCS has also performed UST closures, assessments, remediation, and compliance monitoring for the City of Phoenix, City of Mesa, City of Chandler, City of Tucson, Maricopa County, Pima County, and other municipal and county agencies. SCS stability and reliability is demonstrated by the fact that we have held on-call contracts with these state and local entities for over 15 years.

SCS is currently involved in ongoing UST projects for the Arizona Department of Administration – Risk Management. These projects include groundwater and soil investigations in various geological settings, such as perched and fractured bedrock aquifers. Other consultants started many of these projects, but SCS was retained by ADOA-RM to complete site characterization and remediation activities in a timely and cost-efficient manner. Although some of these projects are not large in size, they are proof of our commitment to meeting the State's needs.

Scientific and engineering expertise counts for very little without effective project management. The SCS project team has proven their ability to manage and perform projects with a wide range of size and complexity – from large, long-term, multi-task contracts to small, short-term, immediate-attention hazardous spills and waste projects. Crucial to successful project management are communication and coordination with the client, accurate definition of work scopes, and contractor management. A large portion of SCS's practice is based on on-call contracts such as this, and we have demonstrated the ability to manage and organize multiple projects to ensure their timely and efficient completion. SCS management and staff are committed to providing equal quality to all projects, regardless of size.

Communication between project management, staff, and the client is essential to successfully complete a project on schedule and within budget. To achieve this, SCS personnel have the capability to communicate with Using Agency project managers via a secure and reliable electronic mail system, and a Wide Area Network with a File Transfer Protocol (FTP) server that allows our clients to upload and download large documents such as graphics files that cannot be reliably emailed. These tools are used to minimize the time required to transfer information such as draft documents, project status reports, and interim data. Project deliverables are provided electronically in a wide range of electronic formats.

In addition to complete local design and drafting capabilities using the 2005 versions of AutoCAD and Land Development Desktop, SCS maintains libraries of survey-based AutoCAD base maps for on-going project areas. These base maps can be coupled with our Trimble Pro XRS differential Global Positioning Satellite (GPS) receiver and Pathfinder processing software to efficiently and cost-effectively collect and display large amounts of accurate (less than 10 centimeters) location data for UST systems, soil sampling or boring locations, monitoring wells, spill or stockpile areas, pipelines, roadways, buildings, floor or storm drains, separators, etc. SCS also maintains current versions of groundwater, vadose zone, and gas transport modeling programs.